SERVICE MANUAL

FISHER

MT-6360

Programmable Turntable with Full Automatic Operation, Linear Motor, Infrared Remote Control

(EUROPE)

The first name in high fidelity

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SPECIFICATIONS

TURNTABLE	MT-6360
GENERAL	
Type	Direct drive, programmable turntable with full automatic operation
Motor	Linear motor
Speeds	33-1/3, 45 rpm
Wow/Flutter	0.03 %
Signal-to-noise ratio	65 dB
Power requirements	110/220 V, 50/60 Hz
Power consumption	17 W
Dimensions (W x H x D)	422 x 135 x 337 mm
Weight (approx.)	8.2 kg
Accessories	45 rpm adapter Remote control box Size "AA" batteries x 4
TONEARM	
Type	Static balanced J-type pipe arm
Effective length	222 mm
Overhang	17 ±2 mm
Tracking error	+2.2°/–1.4°
CARTRIDGE	
Type	VM type, MC-100S
Frequency response	15 to 20,000 Hz
Separation	More than 20 dB (1 kHz)
Output voltage	2.5 mV/ ±3 dB (1 kHz)
Stylus	0.6 mil diamond, ST-100SD
Tracking force	2.0 ±0.5 g
REMOTE CONTROL BOX	
Power source	Size "AA" batteries x 4
Operation range	About 10 m (straight)
Life of batteries with normal use (60 times/day)	About 1 year
Dimensions (W x H x D)	65 x 30 x 149 mm
Weight (without batteries)	114 g

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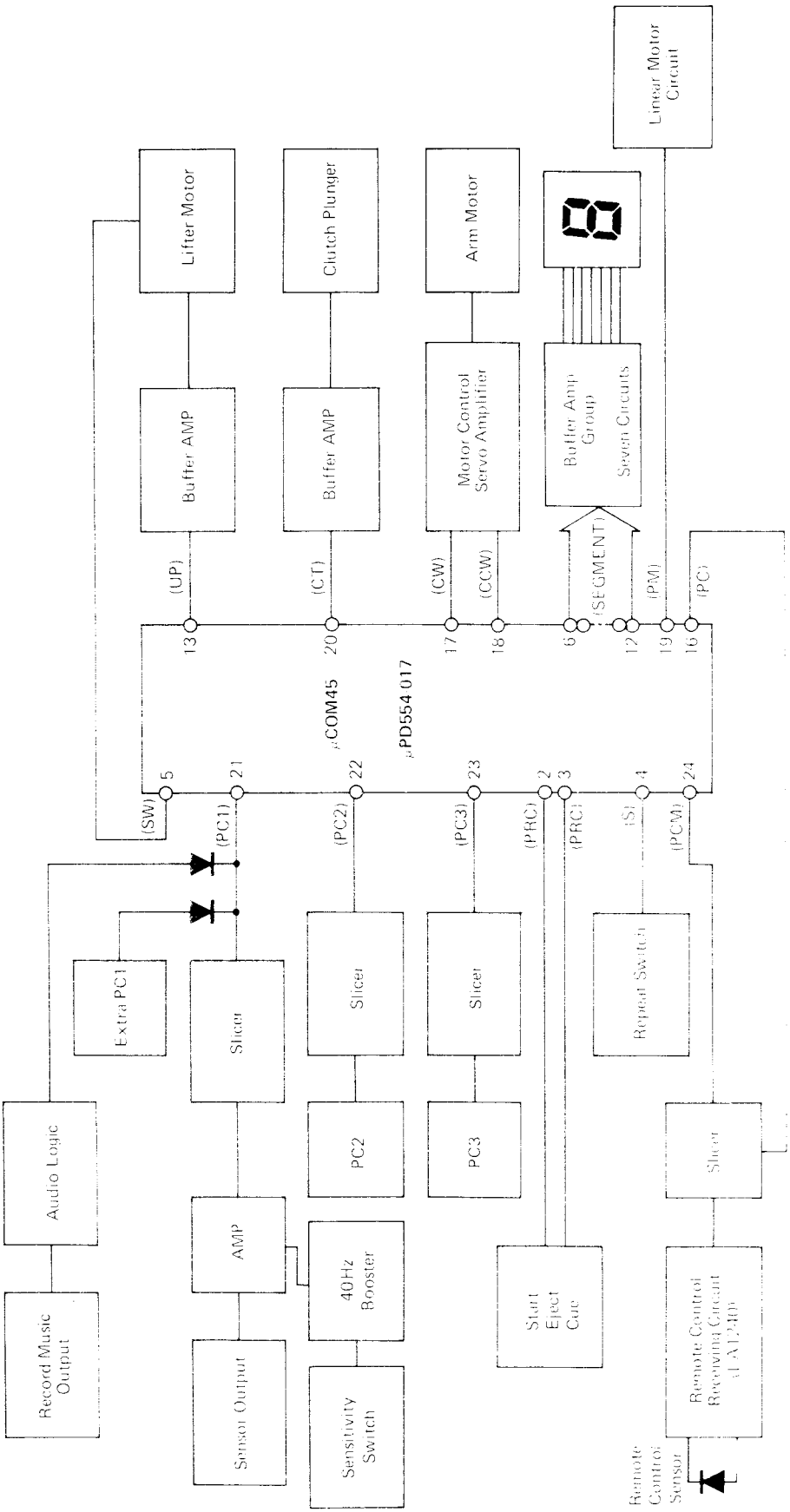
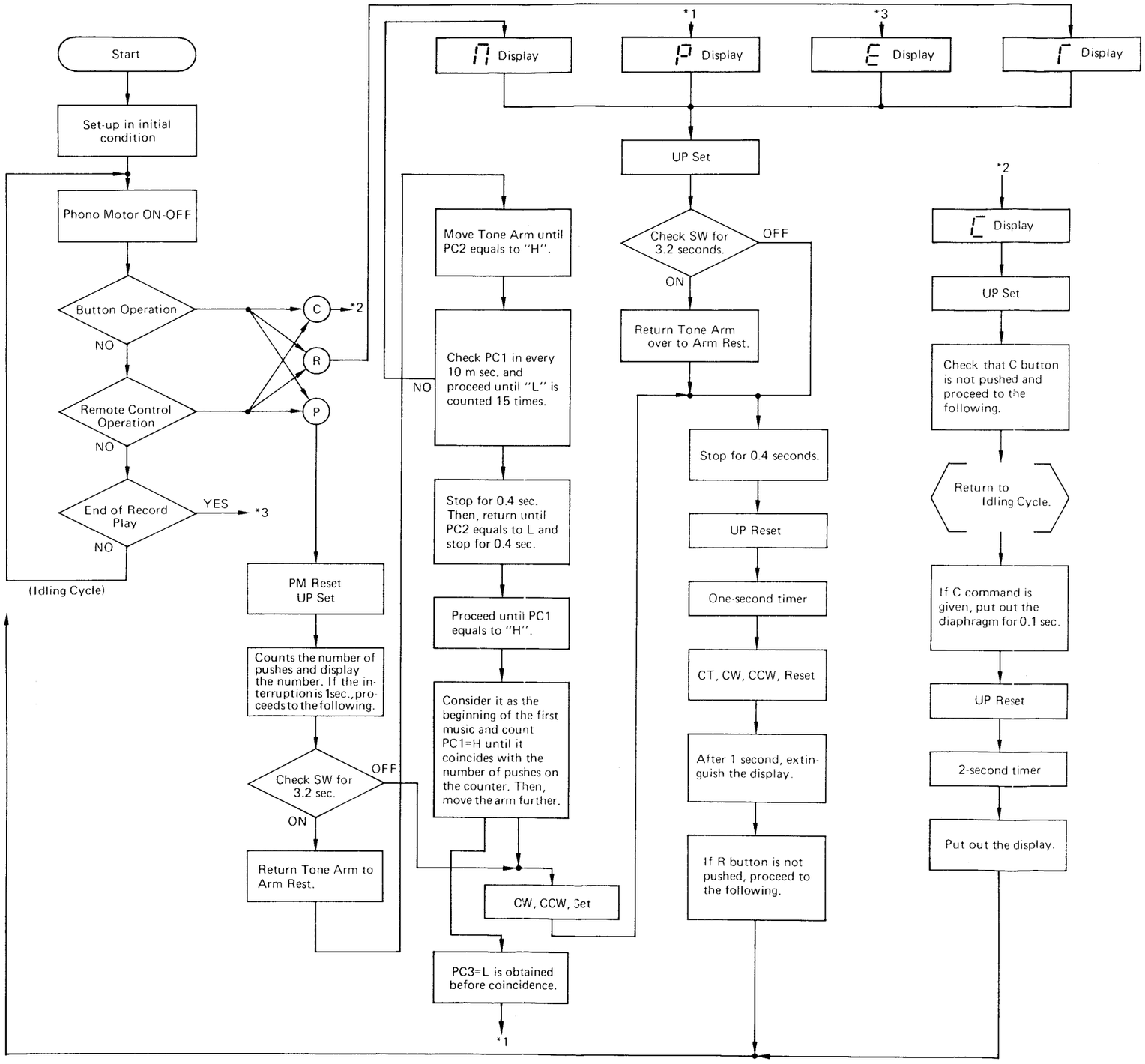
BLOCK DIAGRAM

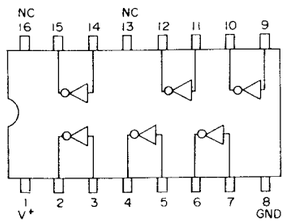


FLOW CHART

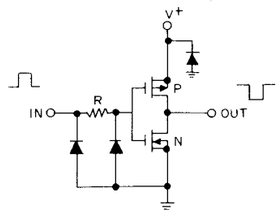

Start
Set-up in initial condition
Phono Motor ON-OFF
Button Operation
NO
Remote Control Operation
NO
End of Record Play
YES
*3
NO
(Idling Cycle)
C
R
P
*2
PM Reset
UP Set
Counts the number of pushes and display the number. If the interruption is 1sec., proceeds to the following.
Check SW for 3.2 sec.
OFF
ON
Return Tone Arm to Arm Rest.
n Display
Move Tone Arm until PC2 equals to "H".
NO
Check PC1 in every 10 m sec. and proceed until "L" is counted 15 times.
Stop for 0.4 sec. Then, return until PC2 equals to L and stop for 0.4 sec.
Proceed until PC1 equals to "H".
Consider it as the beginning of the first music and count PC1=H until it coincides with the number of pushes on the counter. Then, move the arm further.
CW, CCW, Set
PC3=L is obtained before coincidence.
*1
*1
P Display
UP Set
Check SW for 3.2 seconds.
OFF
ON
Return Tone Arm over to Arm Rest.
Stop for 0.4 seconds.
UP Reset
One-second timer
CT, CW, CCW, Reset
After 1 second, extinguish the display.
If R button is not pushed, proceed to the following.
*3
E Display
r Display
*2
C Display
UP Set
Check that C button is not pushed and proceed to the following.
Return to Idling Cycle.
If C command is given, put out the diaphragm for 0.1 sec.
UP Reset
2-second timer
Put out the display.

HEX BUFFER/CONVERTER (INVERTING) MSM4049

TOP VIEW

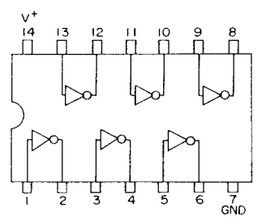


EQUIVALENT CIRCUIT

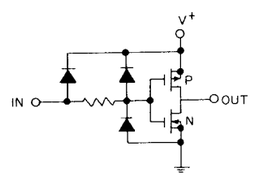


HEX INVERTER MSM4069

TOP VIEW

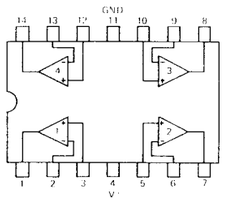


EQUIVALENT CIRCUIT

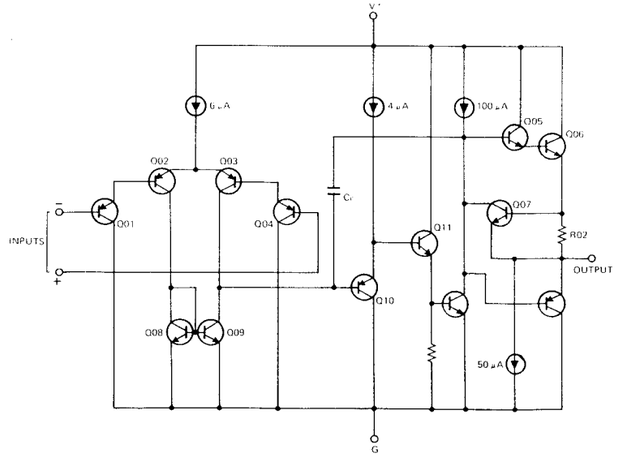


OPERATIONAL AMPLIFIER LM324

TOP VIEW

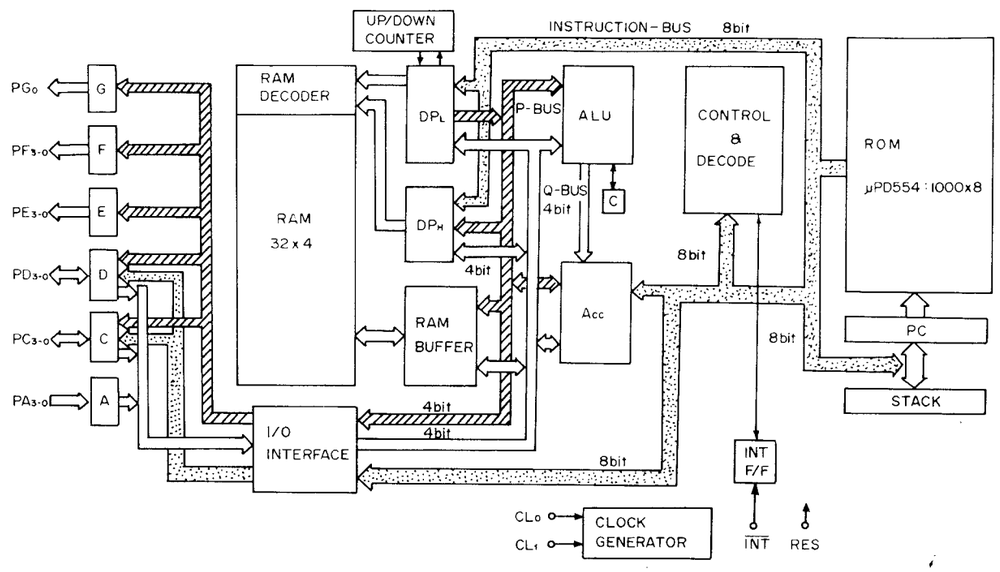


EQUIVALENT CIRCUIT

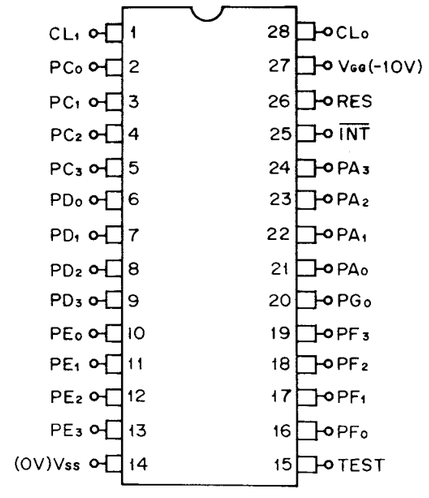


MICROCOMPUTER IC μPD554-017 (μCOM45)

SIGNAL FLOW



TOP VIEW



MICROCOMPUTER

All functions of the MT-6360 (including remote control) are controlled by a single chip microcomputer μCOM 45 in LSI technology (large-scale integrated circuit). The LSI technology made it possible to integrate more than 15,000 electronic parts into one plastic 28 pin dual in-line package.

Specifications

32 4-bit registers RAM (random access memory), user programmable
1,000 x 8 ROM (read only memory), contains the program
8 input ports
13 output ports

The signals from the four optical systems are processed by various interface circuits, and the outputs of the interface circuits are connected to the input ports of the microcomputer. The microcomputer processes these signals according to the program contained in the ROM (read only memory) and according to the control panel or remote control commands given by the user through the RAM (random access memory).

After the signal processing according to the predetermined logic has taken place, the control signals pass through the microcomputer output ports to the output interface circuits which in turn provide drive signals for the two tonearm motors, for the digital readout, and a control signal for the turntable linear motor. The random access memory can be programmed either through soft touch switches at the record player control panel or through the infrared remote control from a remote location of up to 10m (30 feet).

The rotation of the turntable platter (rotor of linear motor) is controlled by the microcomputer. Pressing the start button will start the linear motor independent of the tonearm position. Pressing the reject button will stop the platter.

OPERATION OF TONEARM DRIVE SYSTEM

The lateral motion of the tonearm is controlled by a DC servo motor which is coupled through an electromagnetic clutch (solenoid) to the arm. The arm motor speed is 562.5 rpm in either clockwise or counterclockwise direction. A pulley and an idler wheel are used to reduce the motor speed to 3.75 rpm (1/150). The arm rotates 23°/second, and it moves across a 12 inch record in two seconds. Four seconds are required to scan a record both ways. There are no mechanical linkages connected to the arm in the play mode, thus eliminating any lateral force on the stylus.

The vertical motion of the tonearm is controlled by a lift motor which smoothly raises and lowers the tonearm, providing electronically controlled damping of the up and down motion. The lift motor is based on the same principle as a loudspeaker motor, moving coil and magnet. It provides linear up and down motion in electronically controlled 3 mm steps. The motion in the up direction is controlled by a limit sensor and switch.

OPERATION OF MICROCOMPUTER CONTROLLED AUTOMATIC RECORD SCAN SYSTEM

Three optical scanning systems (light emitter and photo transistor pairs PC1, PC2 and PC3) are employed for automatic selection of record size, record track (program) and for end-of-record detection (shut-off).

A fourth optical scanning system is used for the infrared remote control and remote programming of the unit.

PC1 is an infrared emitter and a photo transistor built into the phono cartridge. PC2 and PC3 are optical systems that operate with visible light red LED's and photo transistors.

The optical sensor output is either "L" low which is produced when the photo transistor is conducting, or "H" high which is produced when the photo transistor is not conducting.

As the tonearm scans the record, an infrared light beam produced by the infrared emitter (part of PC1) built into the phono cartridge is aimed at the record surface.

The modulated record grooves scatter the light beam. The photo transistor built into the phono cartridge will not respond to the scattered light. (See Fig. 1.)

As soon as the infrared emitter is directly above an unmodulated section of the record such as the lead-in grooves or the unmodulated spaces between the program selections on the record, the infrared beam will be reflected and the photo transistor will pick up the reflected signal and electrically conduct. (See Fig. 2.)

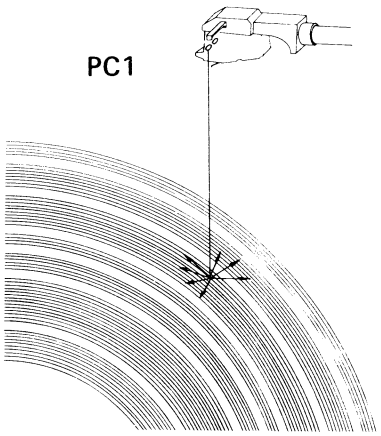


Fig. 1

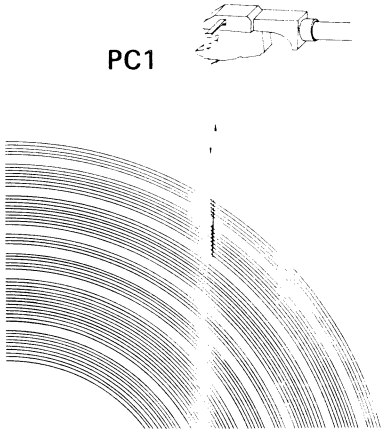


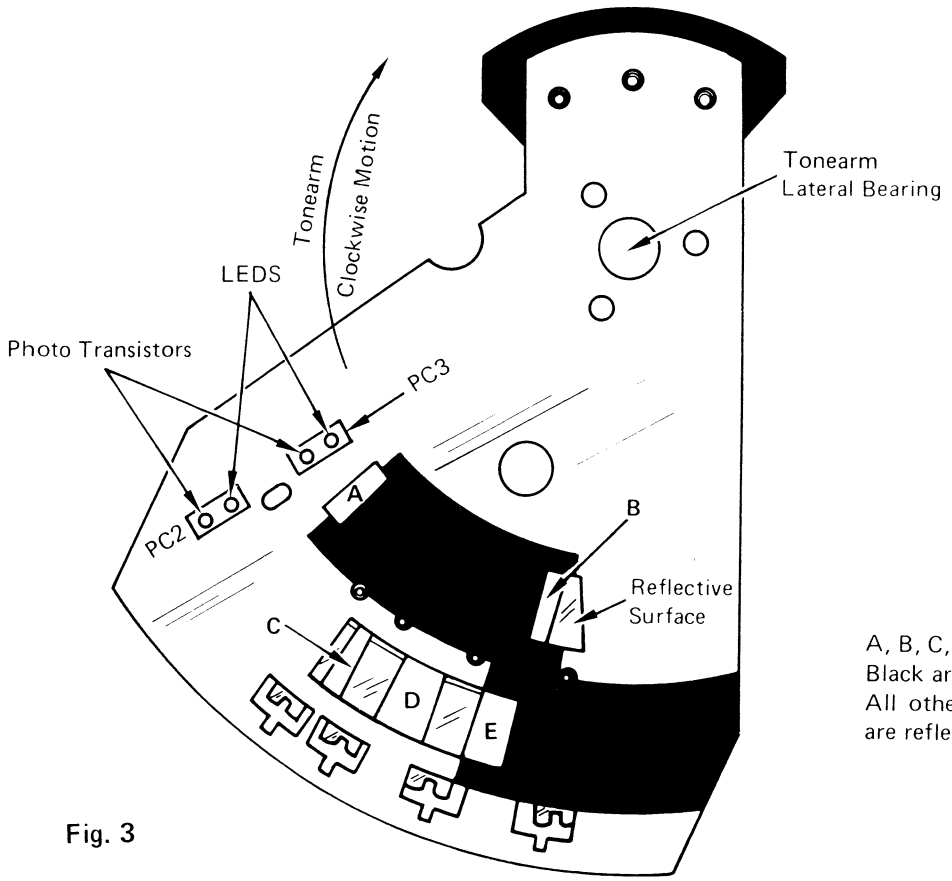
Fig. 2

The PC1 sensor scans the turntable surface and detects whether or not a record is on the turntable. The rubber mat surface is highly reflective and thus causes the infrared beam to be reflected as in Figure 2. With no record on the turntable, this causes the photo transistor to conduct and produce an "L" signal output.

The lateral motion of the tonearm will be stopped above the unmodulated section of the record and the tonearm lift motor slowly lowers the arm. The program selection is accomplished by counting the number of unmodulated bands on the record. The unmodulated bands will reflect the light and the photo transistor will conduct. The number of unmodulated bands equals the number of times the photo transistor is turned on. If the program selector is programmed for the second selection, the tonearm will automatically be lowered above the unmodulated band following the first selection.

PC2 and PC3 sensors are mounted in a fixed stationary position on a printed circuit board which is mounted below the tonearm into the turntable base. A template which follows the lateral motion of the tonearm is mounted to the tonearm directly below the printed circuit board with the sensors.

The template surface that faces the PC2 and PC3 sensors has highly reflective areas, nonreflective areas and cutouts. The light beam is either reflected and picked by the photo transistors or it is not reflected when it is aimed at black surface areas or any of the cutouts in the template. (See Fig. 3)



A, B, C, D, E are cutouts.
Black area is nonreflective surface.
All other areas in the path of the sensors are reflective.

Fig. 3

The condition where the light beam is reflected produces an "L" signal, ON condition of the photo transistor.

The condition where the light beam is interrupted produces an "H" signal, OFF condition of the photo transistor.

PC2 sensor delivers the control signal for automatic record size selection. The templete mounted to the tonearm has cutouts, nonreflecting surfaces and reflecting surfaces positioned in such a way that they coincide with phonograph record outside diameters of 300mm (12"), 250mm (10") and 170mm (7"). This makes it possible to factory adjust, optically sense and electronically control the record size selection by fixing the position of the tonearm set down.

Under actual operating conditions the tonearm scans the turntable surface and the PC2 control signal will advance the tonearm inward to a record diameter of 170mm (7").

During the inward scan of the tonearm the PC1 sensor determines whether there is a record on the turntable. If there is a record on the turntable, the tonearm will be automatically repositioned to the beginning of the record or the user selected track contained in the RAM. The arm lift motor will lower the tonearm and normal operation will begin. If there is no record on the platter the tonearm will move farther inward until it reaches a platter diameter of 110mm. At that point the photo transistor of the PC3 sensor will conduct and activate the tonearm return.

Once the return motion (lateral counterclockwise) of the tonearm is started, the arm will swing outward towards the arm rest. The electronic control signal will remain active until the arm is approximately 15mm from its rest position on the arm rest. At that time the PC3 sensor will be activated by the reflective surface of the template and this will result in an "L" output signal.

In order to prevent false triggering, the following conditions must be met before the tonearm return is activated.

1) Stylus must be at record inside diameter of 110mm.
   PC2 signal . . . . . "H"
   PC3 signal . . . . . "L"

2) PC1 sensor must be over surface that reflects the infrared light beam.
   PC1 signal . . . . . "L"
   PC1 port Pin 21 of μComputer . . . . . "H"

SWITCHING DIAGRAM OF PC2, PC3 SENSORS

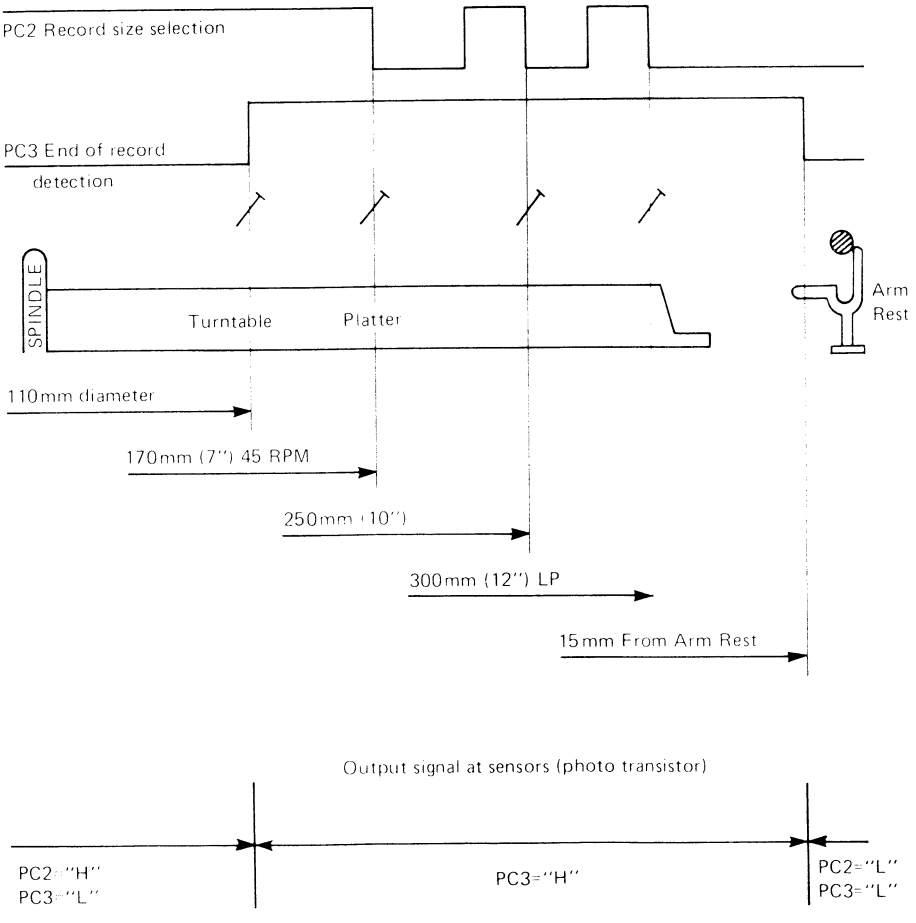


Fig. 4

END RETURN CONDITION

The End of Record Tonearm Return will take place provided the following conditions are met.

1. When the tonearm advances to a record inside diameter of 110mm. (when PC2 is set in "H" mode and PC3 in "L" mode at the same time)
2. PC1 port (Pin 21) of Microcomputer becomes "H". (when either one of the signals of the sensor attached to the cartridge, the false signal of PC1, or the audio logic signal is set in "H" mode.)

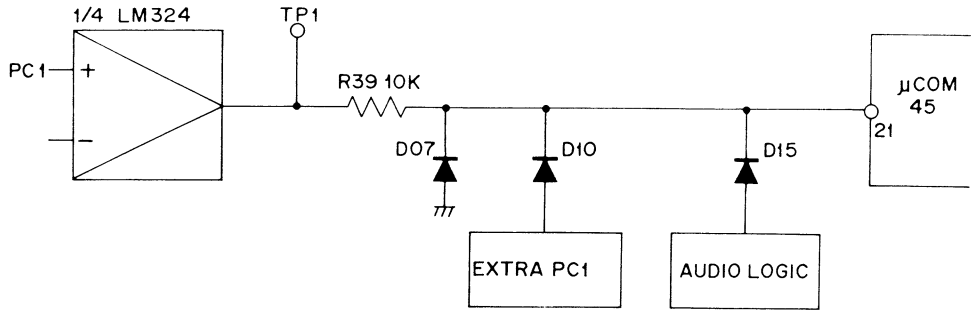


Fig. 5

- EXTRA PC1: Wave Form is obtained and dressed up after the CW signal has passed through the calculus circuit.
- The audio logic is set in "H" mode while the stylus is tracking the record grooves. As soon as the arm motor clutch is engaged, the audio logic is set in "L" mode.
- "H" . . . . . less than +8V
  "L" . . . . . less than +5V

SYSTEM CIRCUITS OF MICROCOMPUTER INPUTS AND OUTPUTS

- **Signal from Arm Lifter Switch (SW)**
  The vertical motion of the tonearm is limited in the up direction by a Limit Switch. As he Tonearm rises to its maximum up position, the Limit Switch will conduct and produce an "H" signal at Pin 15 (SW) of microcomputer. (Limit Switch is made of conductive rubber with a resistance of approximately 200 ohms.

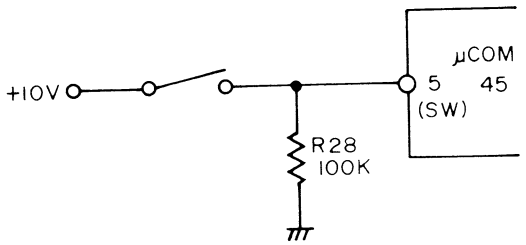


Fig. 6

- **Signal from Record Sensor (PC1)**
  The signal of photo transistor is amplified by IC01 (LM324). At this time, a 40Hz component is generated when the PC1 sensor is above the silent grooves. This 40Hz signal is boosted in inductor circuit of semiconductor Q10, and is applied to IC02 (LM324).
  IC02 operates as a comparator. An "H" signal is produced at IC02 output and microcomputer input when the positive input voltage exceeds the 3.1V bias at the negative input of IC02. An "L" signal is produced when the input voltage is less than 3.1V.

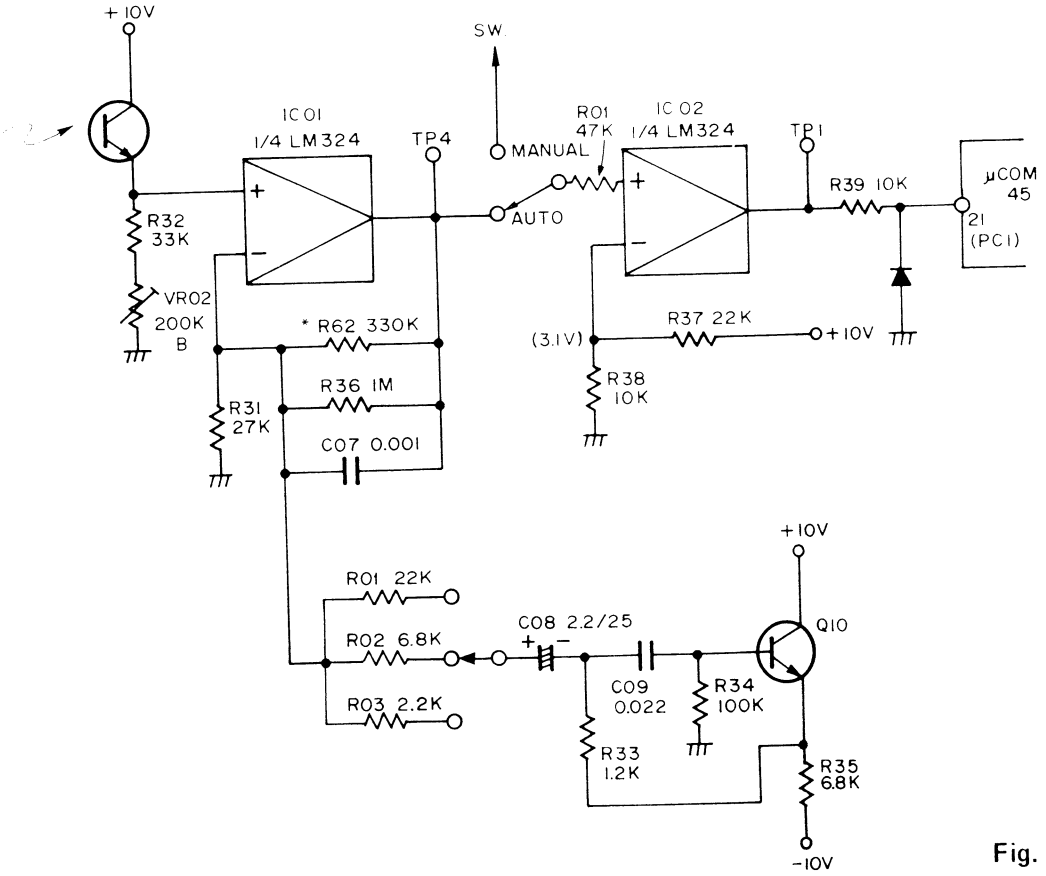


Fig. 7

* Sensitivity is adjusted by R62. When proper sensitivity is not obtained by VR02, remove R62.

- **Arm Position Detection by Reflectors (PC2 and PC3) and Photo Couplers**
  When the light beam of PC2 makes optical contact with photo transistor Q02, Q02 is turned on. Then, Q08 is turned on, and the collector of Q08 becomes 0V ("L"). Pin 22 also becomes "L" when the light beam of PC3 makes optical contact with Q01.

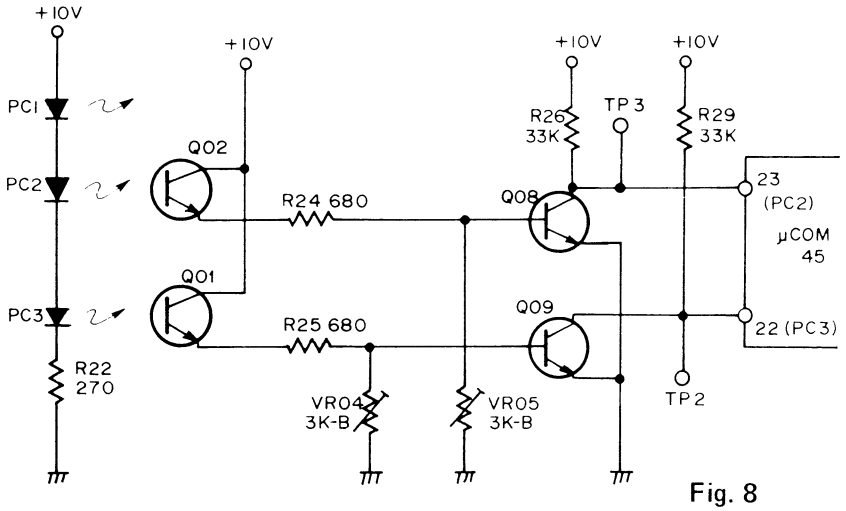


Fig. 8

- **Input Signal of Program, Reject, and Cue Buttons (P.R.C)**
  When Cue Button is pressed, both Pin 2 and Pin 3 of Microcomputer become "H" at the same time.

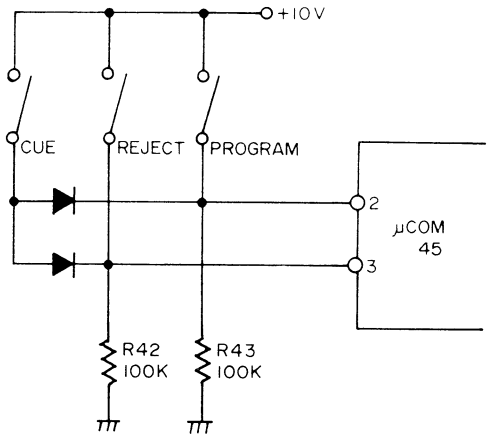


Fig. 9

- **Signal of Repeat Switch (S)**
  When Repeat Switch is turned on, Pin 4 of Microcomputer becomes "H".

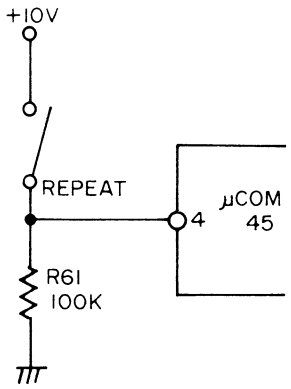


Fig. 10

- **Remote Control Receiving Signal (PCM)**

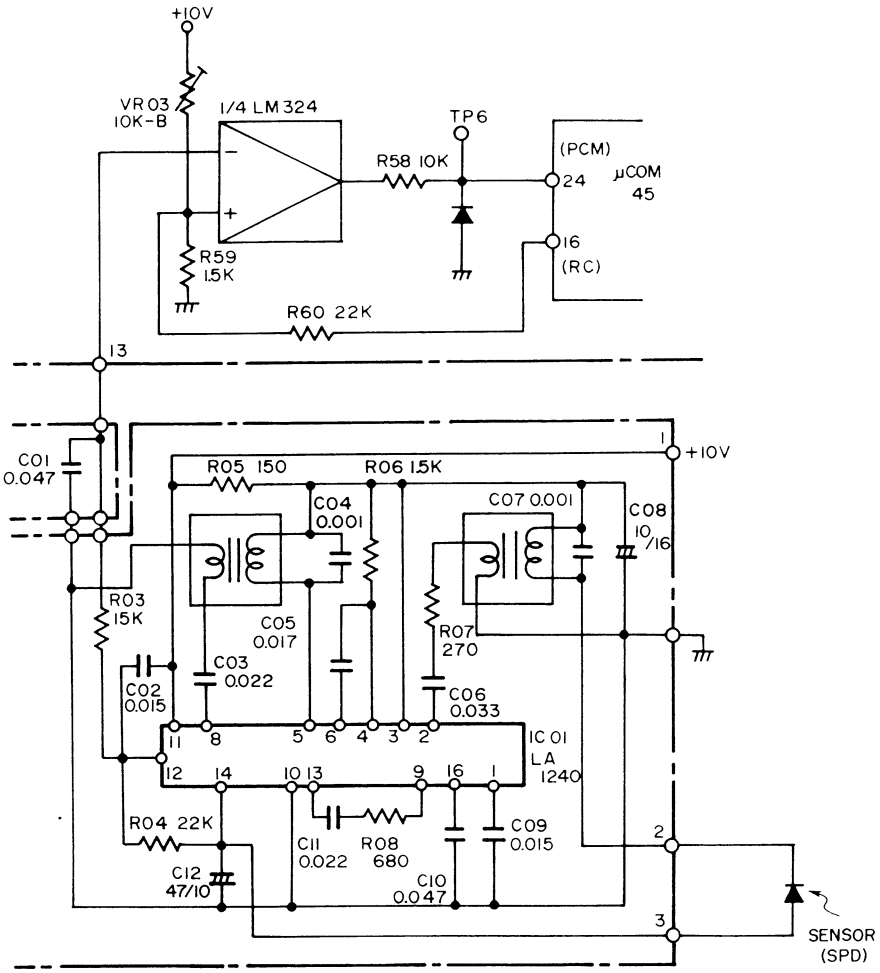


Fig. 11

- **Drive Signal of Arm Lifter (UP)**
  When the signal of Pin 13 (UP) of Microcomputer is "H", the transistor is turned on and current flows into Lifter Motor to raise the arm lifter.
  * When the clutch signal of Pin 20 is set in "H" mode (UP), the signal becomes "H" through Diode.

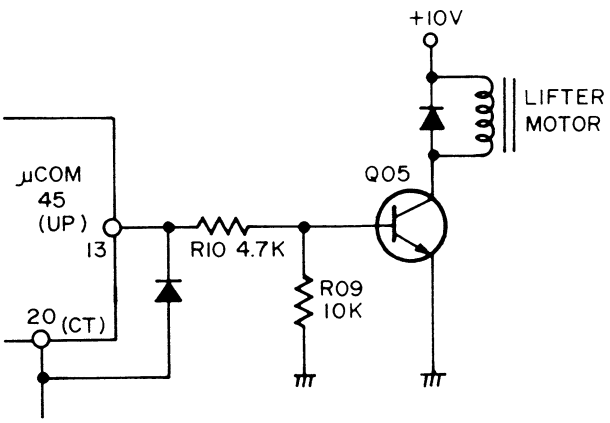


Fig. 12

- **Drive Signal of Clutch (CT)**
  The clutch is driven from a −10V power source to balance the current consumption. C16, 47μF produces a 0.8 sec. switch off time delay for the Clutch.

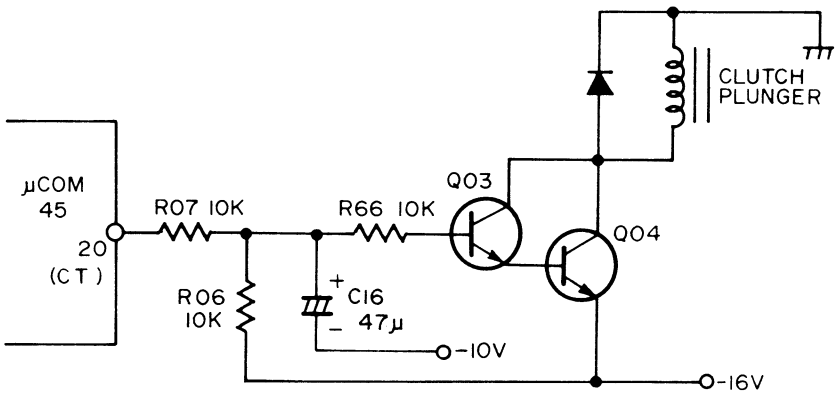


Fig. 13

- **Driving Signal of Arm Motor (CW, CCW)**
  When both CW and CCW become "H" because of Stylus Drop Point Adjustment after the first track, the tonearm rotates counter-clockwise for certain time (approximately 10mS) determined by C04, VR01, and R67.

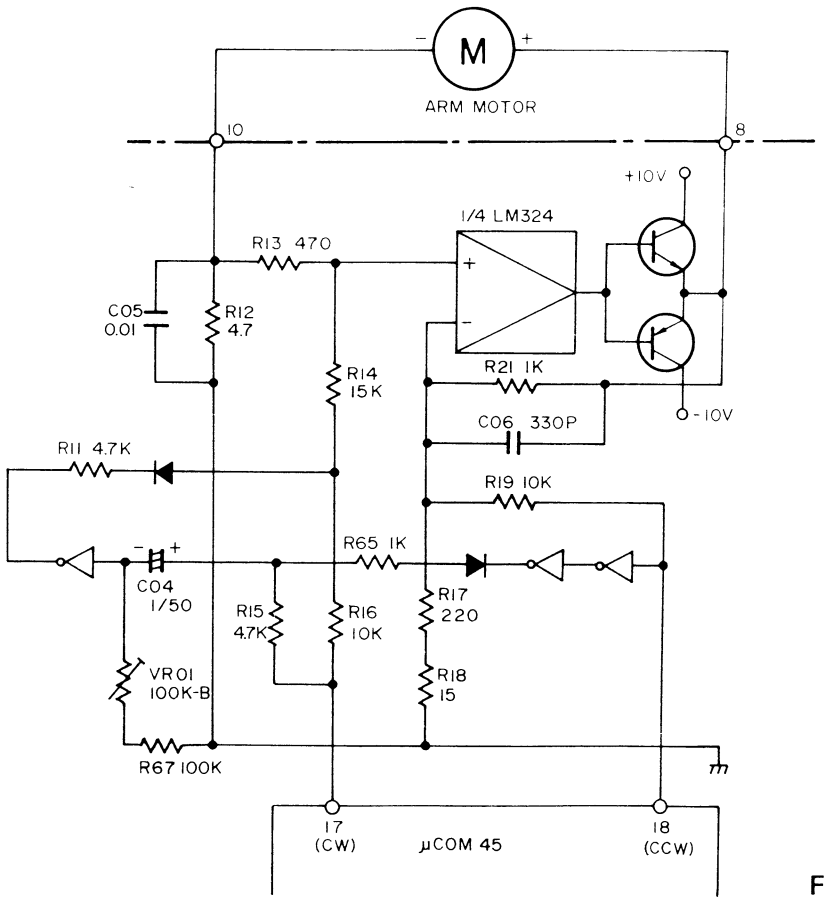


Fig. 14

- **Drive Signal of Phono Motor (PM)**
  If Pin 19 (PM) of Microcomputer is "H", the signal from Servo Amplifier is shorted by Transistor Q02 and the 60kHz oscillator is shunted and no drive signal is supplied to the linear motor drive circuits. If Pin 19 is "L", the oscillator resumes operation and the motor starts rotating.

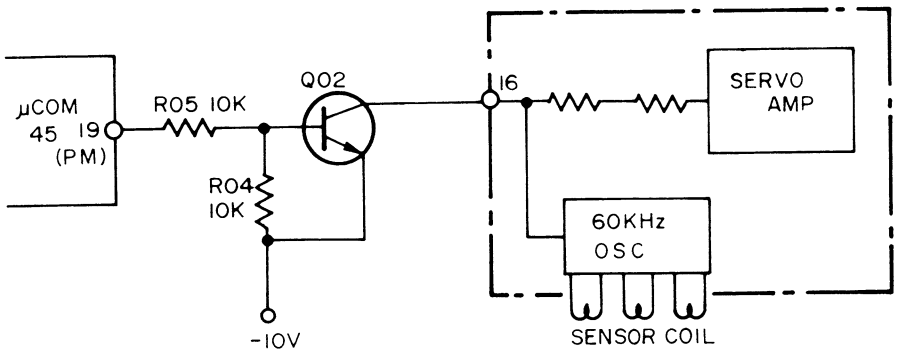


Fig. 15

- **Signal to illuminate L.E.D. (7 segments)**
  When Pin 6 becomes "H", the output of Inverter (MSM4049) becomes "L", a current of approximately 15mA flows through L.E.D. Segment and L.E.D. lights up. The same applies for Pin 7 through Pin 12.

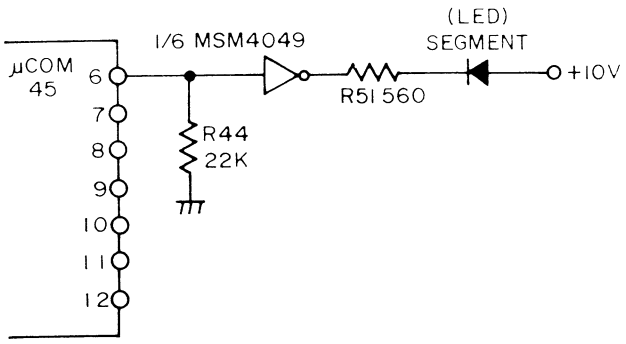
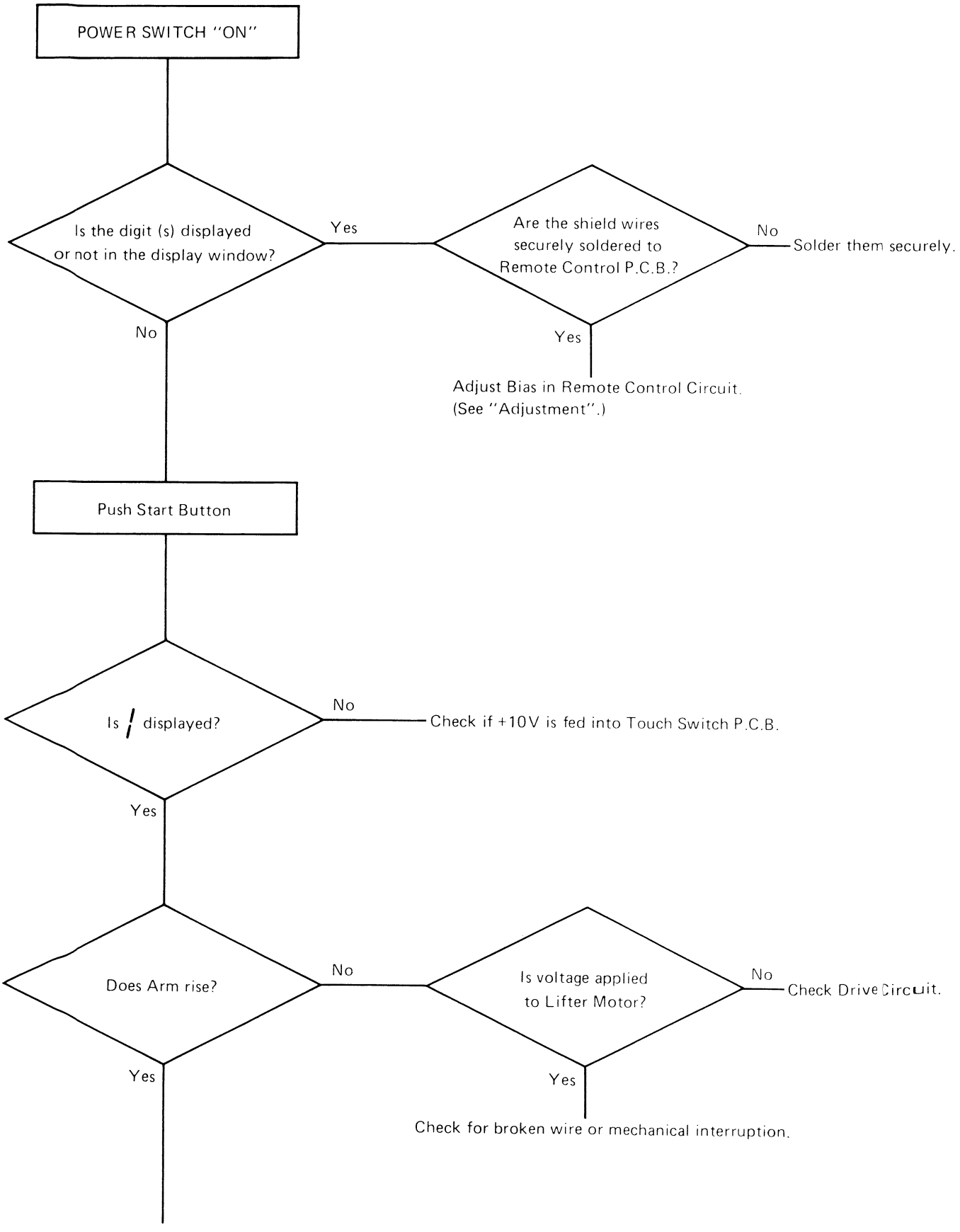
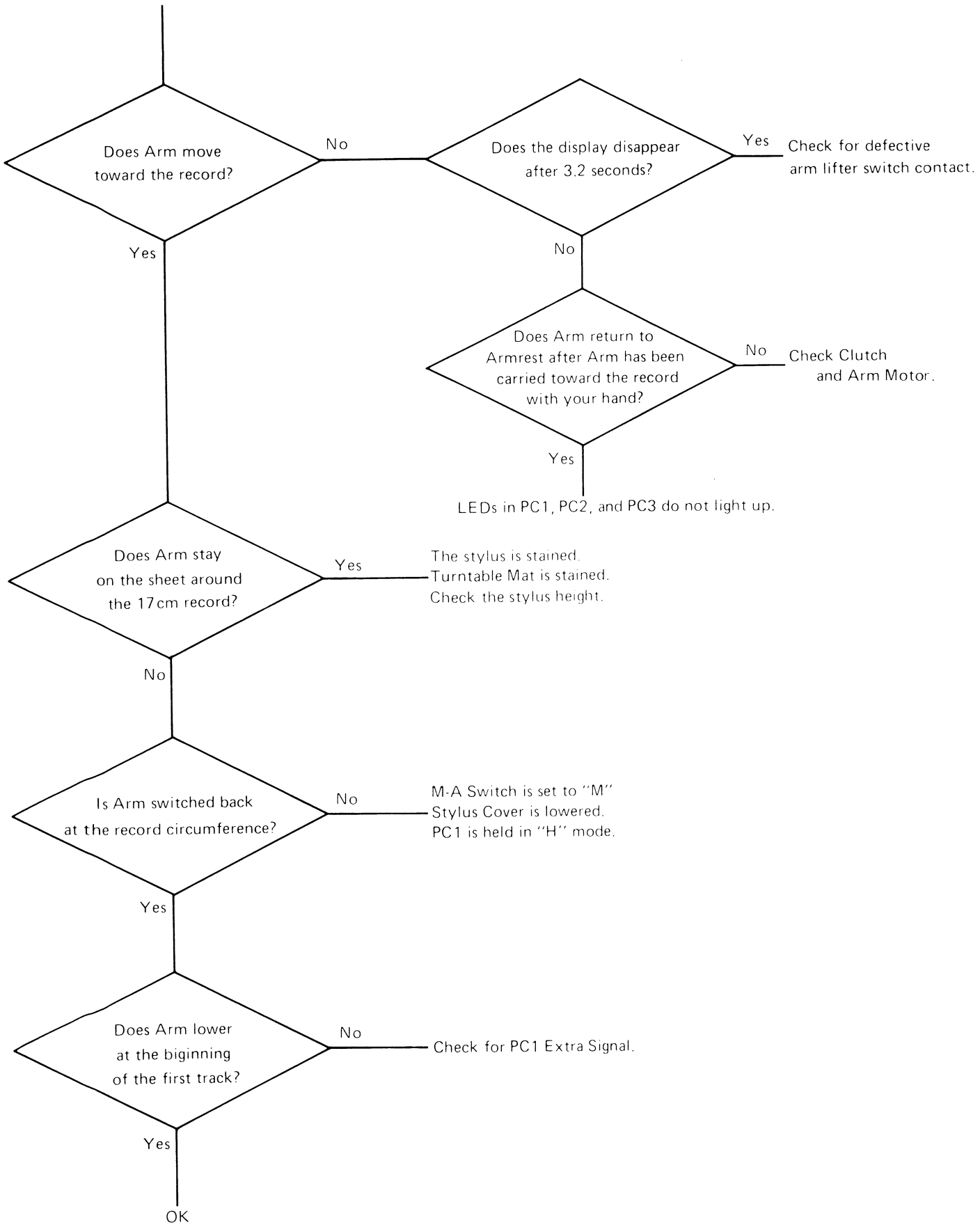


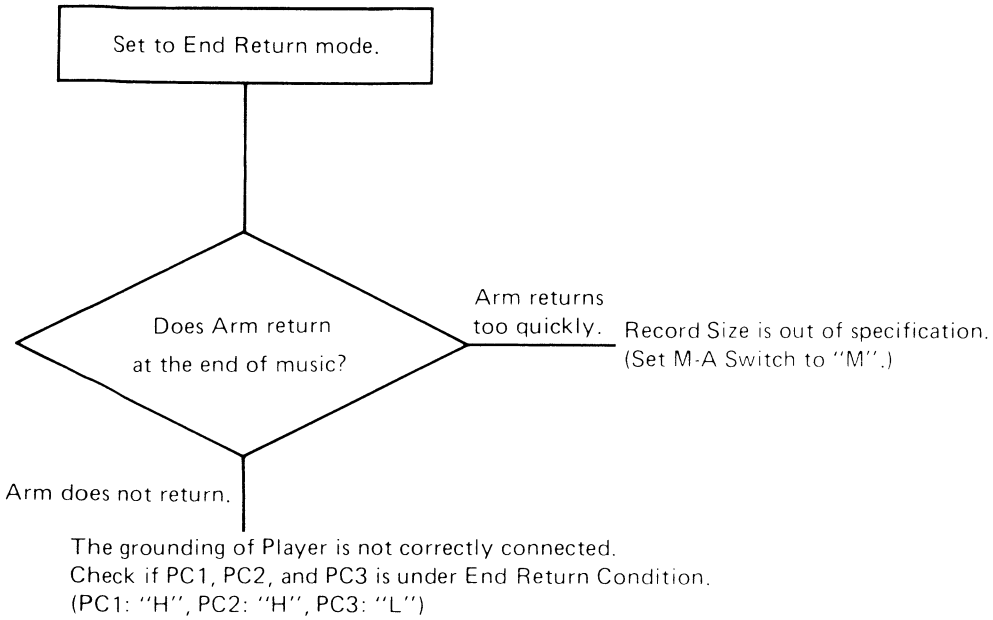
Fig. 16

TROUBLE SHOOTING

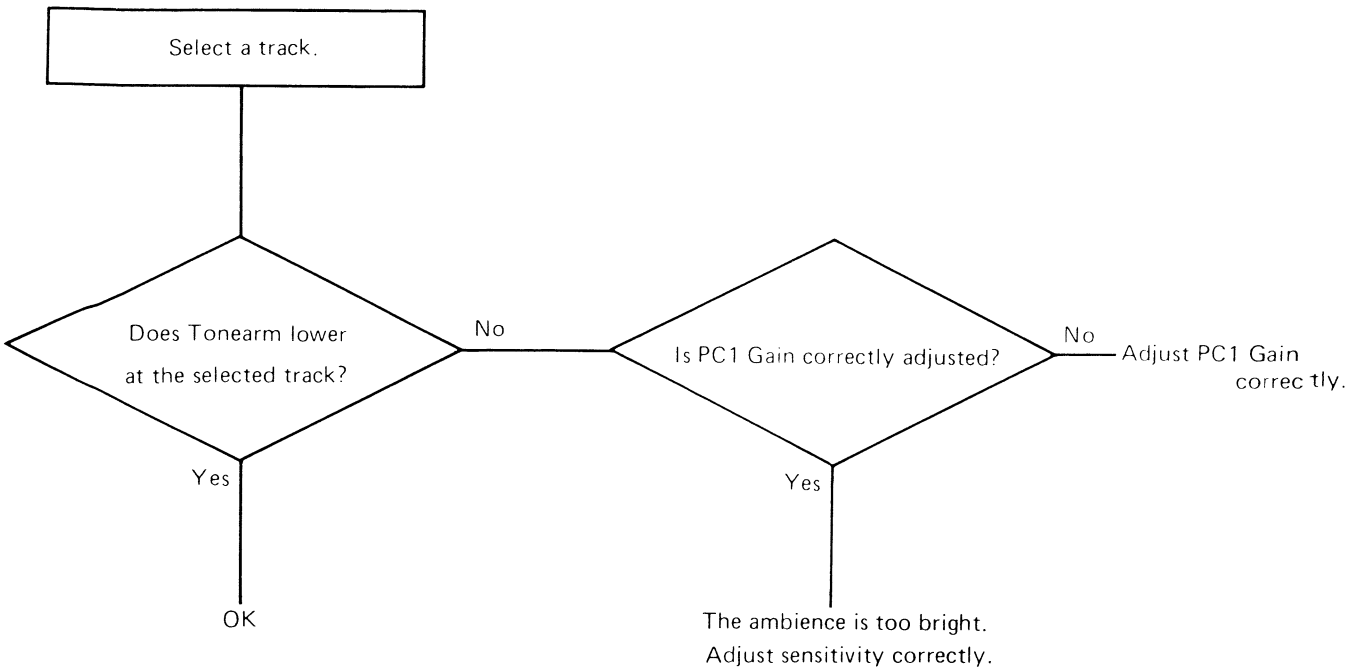



Does Arm move toward the record?
No
Does the display disappear after 3.2 seconds?
Yes
Check for defective arm lifter switch contact.
Yes
No
Does Arm return to Armrest after Arm has been carried toward the record with your hand?
No
Check Clutch and Arm Motor.
Yes
LEDs in PC1, PC2, and PC3 do not light up.
Does Arm stay on the sheet around the 17cm record?
Yes
The stylus is stained.
Turntable Mat is stained.
Check the stylus height.
No
Is Arm switched back at the record circumference?
No
M-A Switch is set to "M"
Stylus Cover is lowered.
PC1 is held in "H" mode.
Yes
Does Arm lower at the biginning of the first track?
No
Check for PC1 Extra Signal.
Yes
OK

END RETURN


Set to End Return mode.
Does Arm return at the end of music?
Arm returns too quickly.
Record Size is out of specification. (Set M-A Switch to "M".)
Arm does not return.
The grounding of Player is not correctly connected.
Check if PC1, PC2, and PC3 is under End Return Condition.
(PC1: "H", PC2: "H", PC3: "L")

AUTOMATIC MUSIC SEARCH



CHANGING THE STYLUS

- Turn off the power to the amplifier and the turntable.
- Carefully grasp the stylus assembly and pull it forward and downward away from the cartridge body.
- Install the ST-100SD replacement stylus assembly by gently pushing it upward and backward into the cartridge body.

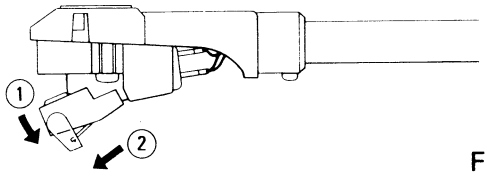


Fig. 17

MECANICAL ADJUSTMENT

Adjustment of Stylus Height

- Set the unit horizontally.
- Turn on the Power Switch and set Cueing in "UP" mode.
- Turn Support Arm Shaft until the space between the stylus tip and the disk surface becomes 4.0±0.7mm or the space between the stylus tip and the turntable becomes 9.0±0.7mm. (Fig. 18)

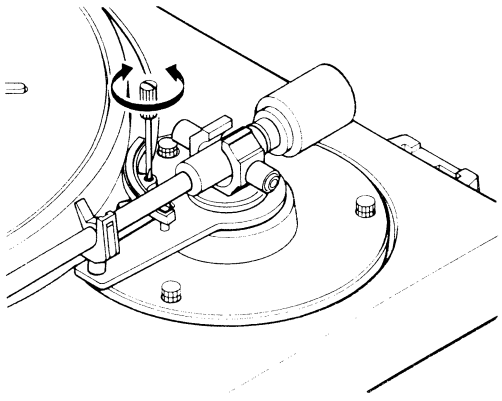


Fig. 18

ELECTRICAL ADJUSTMENT

ROTATION ADJUSTMENT

- Place the unit horizontally and set the pitch control knobs (VR01, 02 50k) to their mechanical center positions.
- Set the speed selector to 33 or 45 rpm and adjust VR01 (100K-B) for zero deviation by observing the stroboscope. (Fig. 19)

DC BALANCE ADJUSTMENT

- Remove the turntable. (The unit can be placed vertically.)
- Connect a DC VTVM between test points and terminal No. 10, and subsequently between test point and terminal No. 7. Adjust first VR03 and then VR02 for minimum DC voltage, the value measured should be less than 10mV DC when simultaneously measured with two DC VTVM. (Fig. 19)

MOTOR P.C.BOARD LAYOUT
(TOP VIEW)

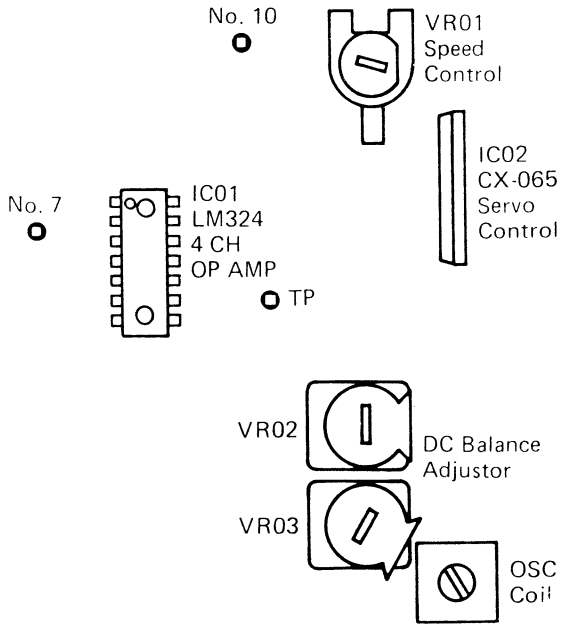


Fig. 19

ELECTRICAL ADJUSTMENT (Continued)

Frequency Adjustment of Clock OSC

- Connect the frequency counter to Pin 12 (–) and TP5 (+) on Microcomputed Control P.C.Board. (Fig. 20)
- Adjust L01 until the clock frequency becomes 400kHz.

Adjustment of Remote Control Receiver

- Connect the synchroscope to Pin 12 (–) and Pin 13 (+) on Microcomputed Control P.C.Board. (Fig. 20)
- Set the unit in the receiving mode of Remote Control Transmitter signal.
- Adjust L01 and L02 (Remote Control Tuner P.C.Board) until the wave form output of synchroscope is maximized.

Remote Control Circuit Bias Adjustment

- Connect a DC VTVM to TP7 (–) in MCP Control P.C.Board and Wrapper Pin 13 (+). (Fig. 20)
- Adjust VR03 (10K-B) until –0.9V is obtained.

Note: Remote Control should be set in no-signal mode when the above adjustment is performed.

MICROCOMPUTED CONTROL P.C.BOARD LAYOUT
(TOP VIEW)

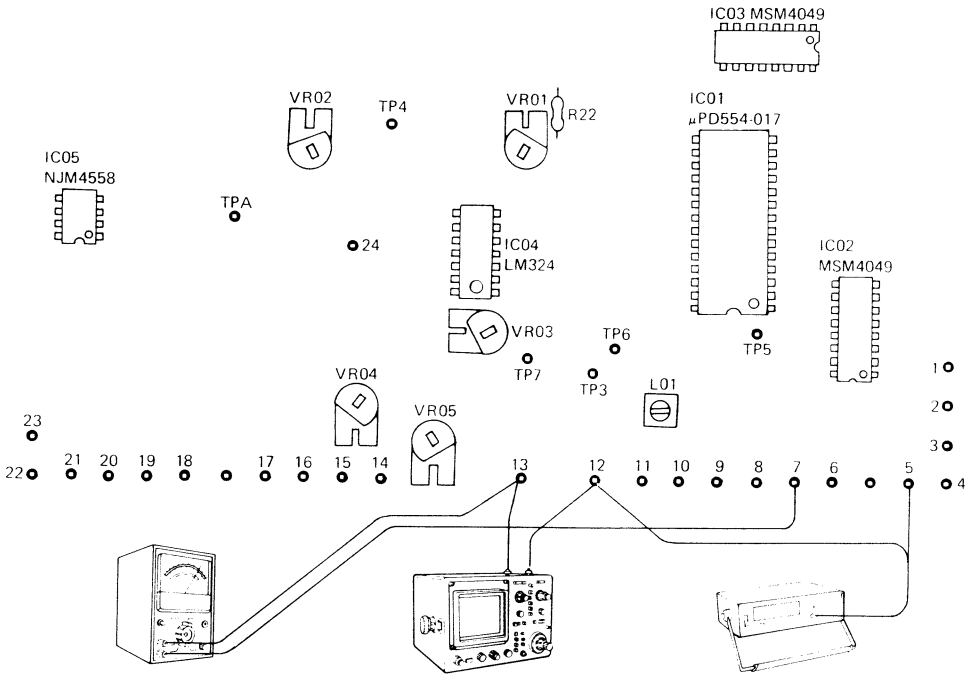


Fig. 20

ELECTRICAL ADJUSTMENT (Continued)

PC1 Gain Adjustment (necessary when the cartridge has been replaced)

- Connect a DC VTVM (Digital) to Pin 12 (–) and TP4. (Fig. 21)
- Confirm that the stylus tip is located at the distance of 4±0.3 from the standard reflector.
- Set the reflector on the turntable mat and the cartridge over the center.
- Adjust VR02 until 3.2V is obtained.
  If less than 3.2V is obtained by turning VR, cut R262 (330k) with a pair of nippers (Gain 12dB UP).
- After adjustment, confirm that 3.0 – 3.4V has been obtained at the position where the turntable is rotated by 180°.

Adjustment of Arm Position after the First Track (necessary when the cartridge has been replaced)

- Set the PL Body horizontally and connect an amplifier, speakers, and etc., to the unit to make the sound reproduction possible.
- Use a record with many pieces of music and adjust VR01, so that the start or end of music is not broken off. (Fig. 21)
- If further adjustment is necessary, cut R90 (100k-ohm) with a pair of nippers and perform the re-adjustment.

MICROCOMPUTED CONTROL P.C.BOARD LAYOUT (TOP VIEW)

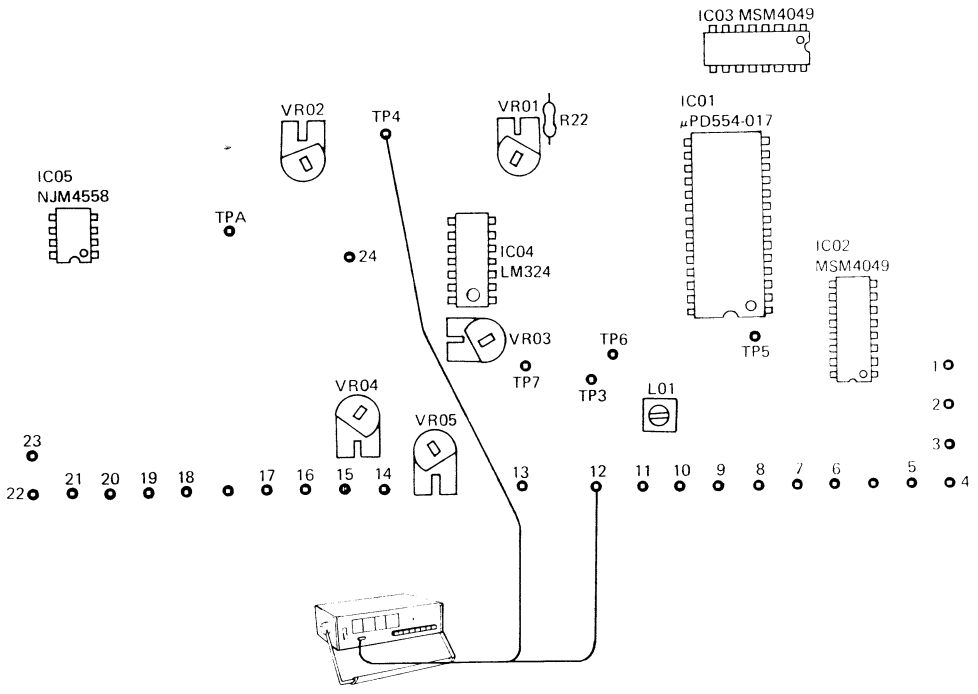
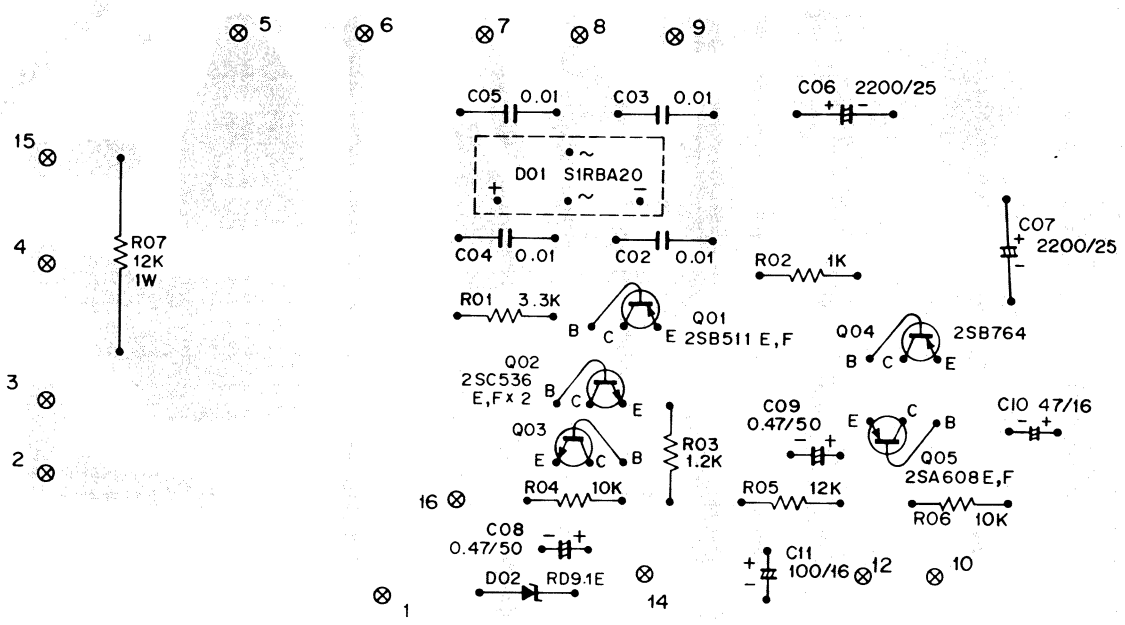


Fig. 21

POWER SUPPLY P.C.BOARD

(BOTTOM VIEW)



POWER SUPPLY P.C.BOARD TRANSISTOR DC VOLTAGES									
SYMBOL No.	DEVICE	B	C	E	SYMBOL No.	DEVICE	B	C	E
Q01	2SB511	15.2V	10.3V	15.3V	Q04	2SB764	−0.6V	−10.6V	0V
Q02	2SC536	10.9V	15.2V	10.3V	Q05	2SA608	−10.6V	−16.0V	−10V
Q03	2SC536	9.2V	10.9V	8.6V					

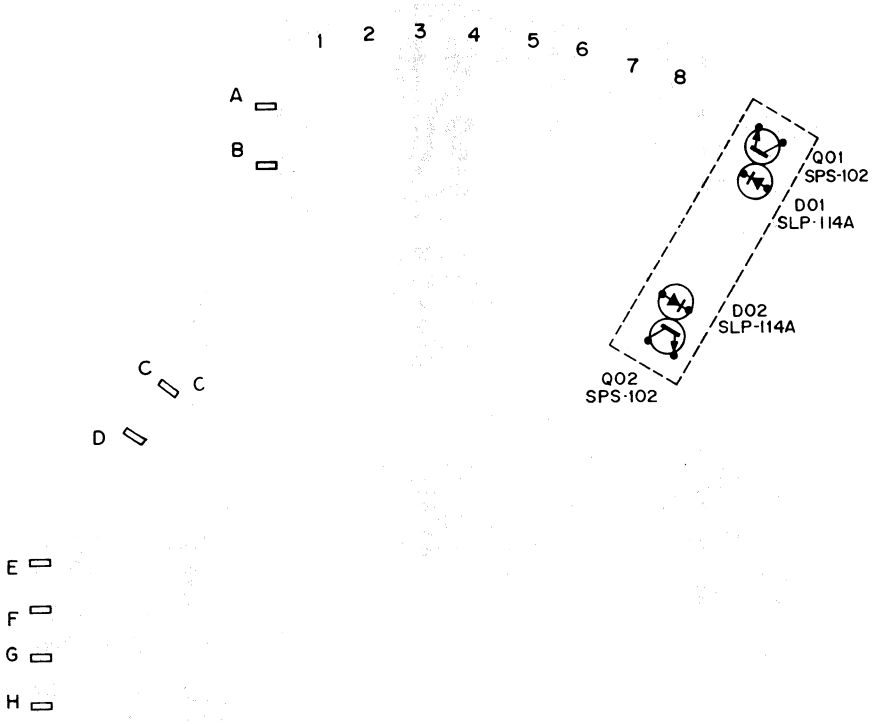
PARTS LIST

POWER SUPPLY P.C.B. Assy
131 0 4001 03101

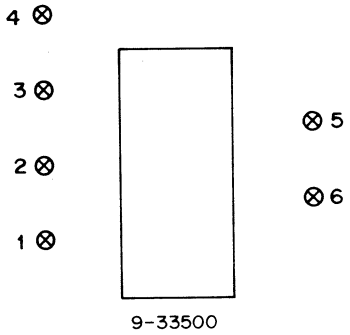
Ref. No.	Parts Number	Description
	131 2 6201 21500	Plate Heat Sink
	CAPACITORS	
C02,03 04,05	C2HYDP103A	Ceramic 0.01 μF 500V +100,−0%
C06,07	4 2232 00400	Electrolytic 2200 μF 25V
C08,09	C1HRY-474APA	Electrolytic 0.47 μF 50V
C10	C1CRY-476APA	Electrolytic 47 μF 16V
C11	C1CRE-107A	Electrolytic 100 μF 16V
	SEMICONDUCTORS	
D01	DDD-S1RBA20	Bridge Diode S1RBA20
D02	DNN-RD9.1EB	Diode, RD9.1E

Ref. No.	Parts Number	Description
	SEMICONDUCTORS	
Q01	203 5 8520 51150	TR 2SB511 E, F
Q02,03	203 5 5000 53650	TR 2SC536 E, F
Q04	203 5 7350 76450	TR 2SB764 E, F
Q05	203 5 7230 60850	TR 2SA608 E, F
	RESISTORS	
R01	R2EDZJ332APA	Carbon 3.3k 1/4W ±5%
R02	R2EDZJ102APA	Carbon 1k 1/4W ±5%
R03	R2EDZJ122APA	Carbon 1.2k 1/4W ±5%
R04	R2EDZJ103APA	Carbon 10k 1/4W ±5%
R05	R2EDZJ123APA	Carbon 12k 1/4W ±5%
R06	R2EDZJ103APA	Carbon 10k 1/4W ±5%
R07	R3AXBJ123A	Oxide Metal Film 12k ohm 1W ±5%

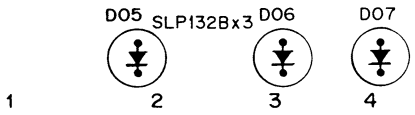
MECHA P.C.BOARD
(BOTTOM VIEW)



M-A SWITCH P.C.BOARD
(BOTTOM VIEW)



L.E.D. INDICATOR P.C.BOARD
(BOTTOM VIEW)



PARTS LIST

MECHA P.C.B. Assy
131 0 4001 01710

Ref. No.	Parts Number	Description
	4 2372 00060	Receptacle
	131 0 4006 20900	Cord Assy (15P)
	4 2352 00360	Socket JST 15P
	4 2362 00060	Receptacle
	4 2369 22810	Receptacle
	SEMICONDUCTORS	
D01,02	DOO-SLP-114A	Diode, SLP-114A
Q01,02	TOO-SPS-102	TR SPS-102

M-A.SWITCH P.C.B. Assy
131 0 4001 01731

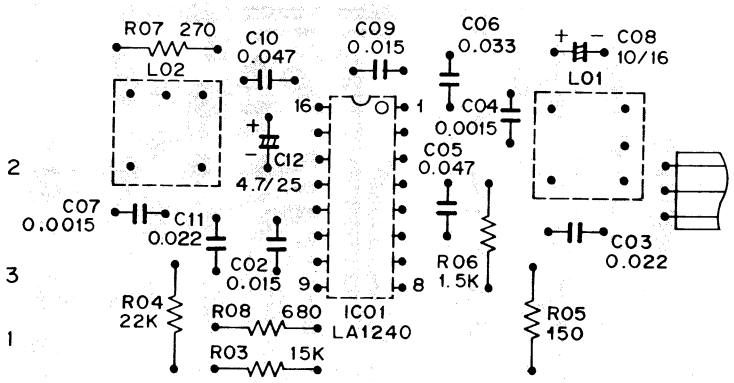
Ref. No.	Parts Number	Description
S01	4 2319 33500	Switch Slide 6P

L.E.D. INDICATOR P.C.B. Assy
131 0 4001 03150

Ref. No.	Parts Number	Description
	SEMICONDUCTORS	
D05,06 07	DOO-SLP-132B	Diode, SLP-132B

REMOTE CONTROL TUNER P.C.BOARD

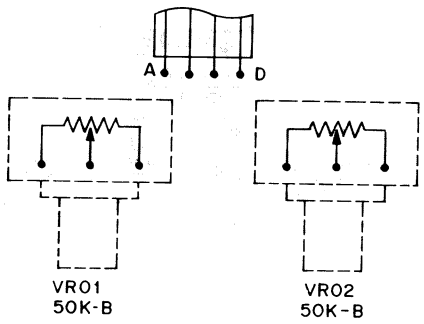
(BOTTOM VIEW)



REMOTE CONTROL TUNER P.C.BOARD IC PIN NUMBERS VOLTAGES													
SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12
IC01	LA1240	4.6V	1.7V	9.4V	7.0V	9.4V	3.3V	–	2.7V	7.0V	0V	10.3V	2.0V

SPEED ADJUST P.C.BOARD

(BOTTOM VIEW)



PARTS LIST

REMOTE CONTROL TUNER P.C.B. Assy
131 0 4001 03120

Ref. No.	Parts Number	Description
L01,02	4 2562 00050	IF Transformer FM
	CAPACITORS	
C02	C1HFYK153APA	Mylar 0.015 μF 50V ±10%
C03	C1HFYK223APA	Mylar 0.022 μF 50V ±10%
C04	C1HFYK152APA	Mylar 0.0015 μF 50V ±10%
C05	C1HFYK473APA	Mylar 0.047 μF 50V ±10%
C06	C1HFYK333APA	Mylar 0.033 μF 50V ±10%
C07	C1HFYK152APA	Mylar 0.0015 μF 50V ±10%
C08	C1CRY-106APA	Electrolytic 10 μF 16V
C09	C1HFYK153APA	Mylar 0.015 μF 50V ±10%
C10	C1HFYK473APA	Mylar 0.047 μF 50V ±10%
C11	C1HFYK223APA	Mylar 0.022 μF 50V ±10%
C12	C1ERY-475APA	Electrolytic 4.7 μF 25V

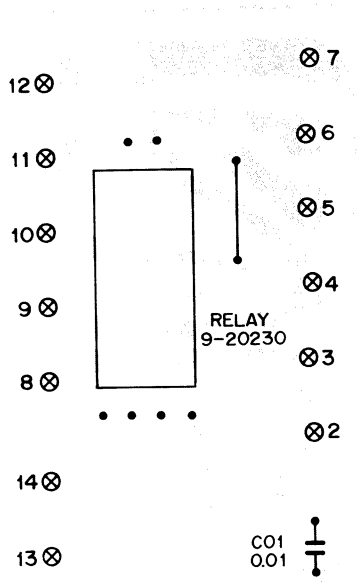
Ref. No.	Parts Number	Description			
	SEMICONDUCTORS				
IC01	206 5 0171 24010	IC, LA1240			
	RESISTORS				
R03	R2EDZJ153APA	Carbon	15k	1/4W	±5%
R04	R2EDZJ223APA	Carbon	22k	1/4W	±5%
R05	R2EDZJ151APA	Carbon	150	1/4W	±5%
R06	R2EDZJ152APA	Carbon	1.5k	1/4W	±5%
R07	R2EDZJ271APA	Carbon	270	1/4W	±5%
R08	R2EDZJ681APA	Carbon	680	1/4W	±5%

SPEED ADJUST P.C.B. Assy
131 0 4001 03130

Ref. No.	Parts Number	Description
VR01,02	4 2222 00780	VR 50k-B

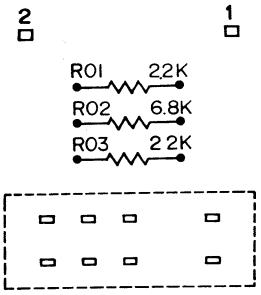
MUTING P.C.BOARD

(BOTTOM VIEW)



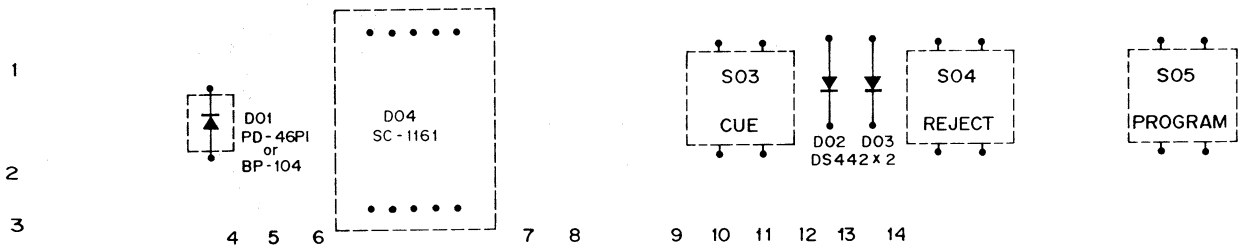
SENSOR SWITCH P.C.BOARD

(BOTTOM VIEW)



TOUCH SWITCH P.C.BOARD

(BOTTOM VIEW)



PARTS LIST

MUTING P.C.B. Assy
131 0 4001 01741

Ref. No.	Parts Number	Description
	4 2329 20230	Relay Leed
	CAPACITORS	
C01	C1HFYK103APA	Mylar 0.01 μF 50V ±10%

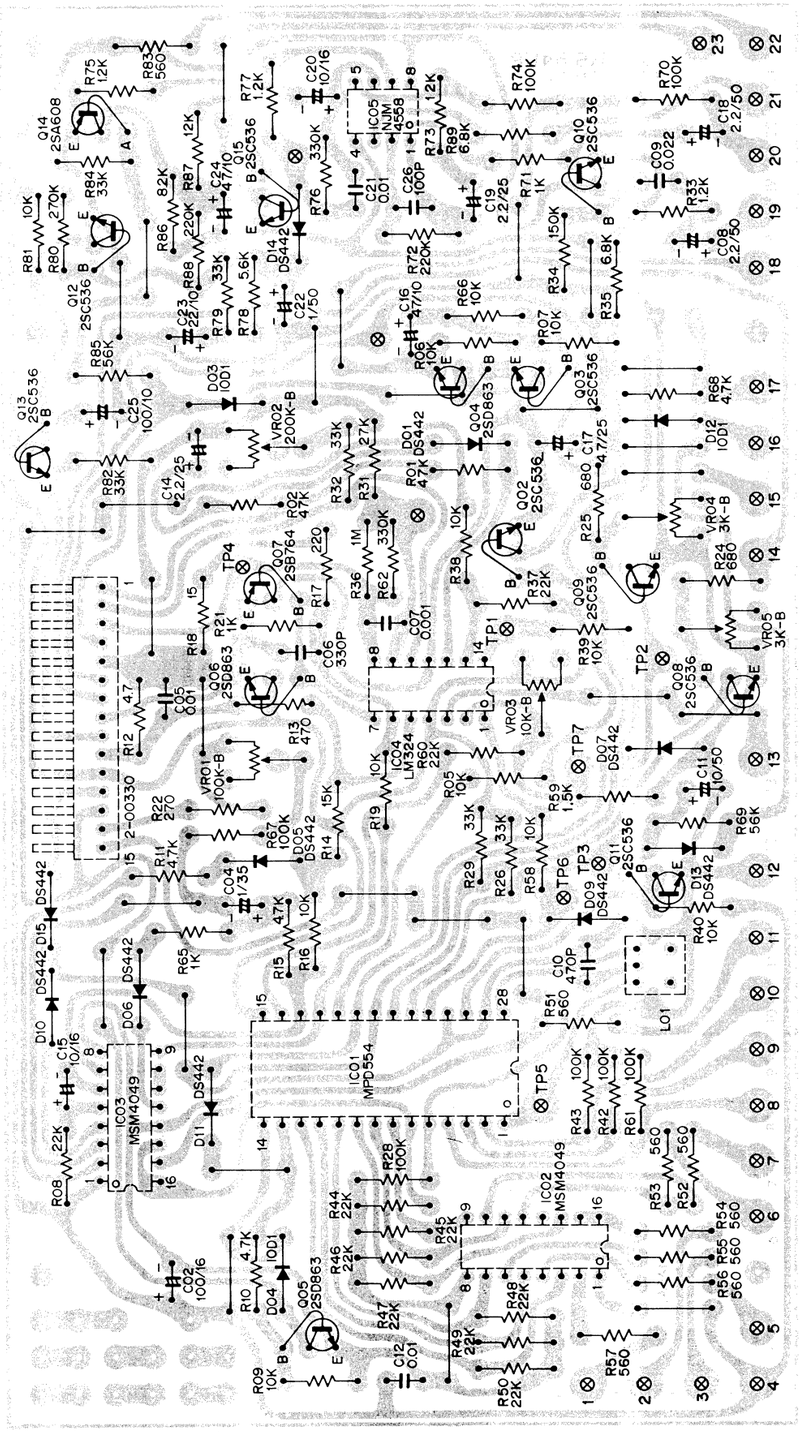
TOUCH SWITCH P.C.B. Assy
131 0 4001 03110

Ref. No.	Parts Number	Description
	4 2312 01880	Key Board Switch
	SEMICONDUCTORS	
D01	4 2092 00020	Diode, BP-104
D02,03	2055 9040 44210	Diode, DS-442
D04	DOO-SL-1161	Diode, SC-1161

SENSOR SWITCH P.C.B. Assy
131 0 4001 02420

Ref. No.	Parts Number	Description
	4 2312 02120	Switch Slide
	RESISTORS	
R01	R2EDPJ222A	Carbon 2.2k 1/4W ±5%
R02	R2EDPJ682A	Carbon 6.8k 1/4W ±5%
R03	R2EDPJ223A	Carbon 22k 1/4W ±5%

MICRO COMPUTED CONTROL P.C.BOARD



MICRO COMPUTED CONTROL P.C.BOARD IC PIN NUMBERS VOLTAGES

SYMBOL No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IC01	μPD554	6.7V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	10.3V
		15	16	17	18	19	20	21	22	23	24	25	26	27	28
IC01	μPD554	10.3V	10.3V	0V	0V	10.2V	−10V	9.2V	0V	0V	−0.6V	0V	0V	0V	6.6V

MICRO COMPUTED CONTROL P.C.BOARD TRANSISTOR DC VOLTAGES

SYMBOL No.	DEVICE	B	C	E
Q02	2SC536	−7.3V	10.1V	−10.0V
Q03	2SC536	−10.0V	0V	−9.5V
Q04	2SD863	−9.5V	0V	−10.0V
Q05	2SD863	0V	10.3V	0V
Q06	2SD863	0V	10.3V	0V

MICRO COMPUTED CONTROL P.C.BOARD TRANSISTOR DC VOLTAGES

SYMBOL No.	DEVICE	B	C	E
Q07	2SB764	0V	0V	0.7V
Q08	2SC536	0.7V	0V	0V
Q09	2SC536	0.7V	0V	0V
Q10	2SC536	−0.9V	10.3V	−1.6V
Q11	2SC536	0.7V	0V	0V
Q12	2SC536	−0.4V	10.3V	0V
Q13	2SC536	10.3V	10.3V	9.7V
Q14	2SA608	0V	−9.7V	0V
Q15	2SC536	−9.7V	10.3V	−10V

PARTS LIST

MICRO COMPUTED CONTROL P.C.B. Assy
131 0 4001 01724

Ref. No.	Parts Number	Description
	4 2362 00330	Plug JST (15P)
L01	4 2562 00040	IF Transformer AM
VR01	4 2229 25330	VR 100k-Bx1
VR02	4 2229 24930	VR 200k-B
VR03	4 2229 25340	VR 10k-Bx1
VR04,05	4 2222 01310	VR Semi-Fixed 3k-B

CAPACITORS

C02	C1CRE-107A	Electrolytic 100 μF 16V
C04	C1VTRK105A	Tantalum 1 μF 35V ±10%
C05	C1HFYK103APA	Mylar 0.01 μF 50V ±10%
C06	C1HCYK331APA	Ceramic 330 pF 50V ±10%
C07	C1HFYK102APA	Mylar 0.001 μF 50V ±10%
C08	C1HRY-225APA	Electrolytic 2.2 μF 50V
C09	C1HFYK223APA	Mylar 0.022 μF 50V ±10%
C10	C1HSBJ471A	Styrol 470 pF 50V ±5%
C11	C1HRE-106AL	Electrolytic 10 μF 50V
C12	C1HFYK103APA	Mylar 0.01 μF 50V ±10%
C14	C1EATN225A	Electrolytic 2.2 μF 25V ±30%
C15	C1CRY-106APA	Electrolytic 10 μF 16V
C16	C1ARY-476APA	Electrolytic 47 μF 10V
C17	C1ERY-475APA	Electrolytic 4.7 μF 25V
C18,19	C1HRY-225APA	Electrolytic 2.2 μF 50V
C20	C1CRY-106APA	Electrolytic 10 μF 16V
C21	C1HFYK103APA	Mylar 0.01 μF 50V ±10%
C22	C1HRY-105ARA	Electrolytic 1 μF 50V
C23	C1ARY-226APA	Electrolytic 22 μF 10V
C24	C1ARY-476APA	Electrolytic 47 μF 10V
C25	C1ARE-107A	Electrolytic 100 μF 10V
C26	C1HCYK-101APA	Ceramic 100 pF 50V ±10%

SEMICONDUCTORS

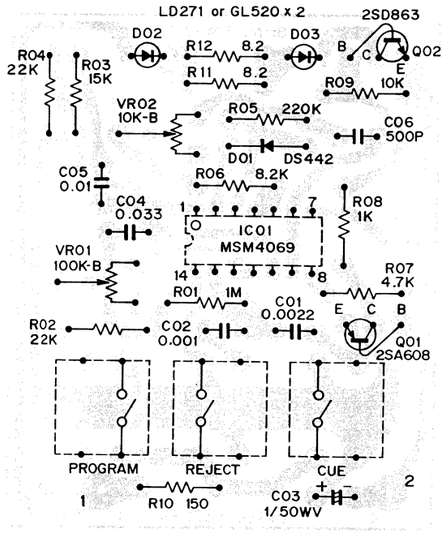
D01	205 5 9040 44210	Diode, DS-442
D03,04	DNN-10D1----N	Diode, 10D1
D05,06 07,09,10,11	205 5 9040 44210	Diode, DS-442
D12	DNN-10D1----N	Diode, 10D1
D13,14 15	205 5 9040 44210	Diode, DS-442
IC01	4 9362 00010	IC, μPD554-017 (Micro Computer)
IC02,03	IPP-MSM4049	IC, MSM4049
IC04	IUU-LM324	IC, LM324 (4CH OP AMP)
IC05	IJJ-NJM4558D	IC, NJM4558D-D
Q02,03	203 5 5000 53650	TR 2SC536 E, F
Q04,05 06	203 5 7340 86350	TR 2SD863 E, F
Q07	203 5 7350 76450	TR 2SB764 E, F
Q08,09 10,11,12,13	203 5 5000 53650	TR 2SC536 E, F
Q14	203 5 7230 60850	TR 2SA608 E, F
Q15	203 5 5000 53650	TR 2SC536 E, F

RESISTORS

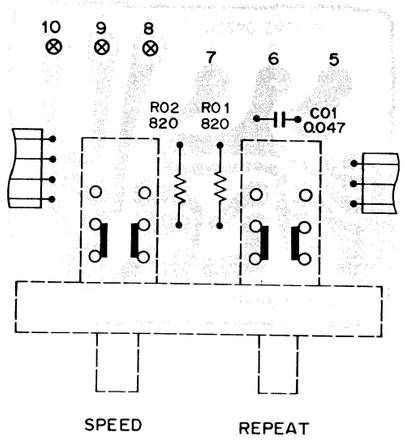
R01,02	R2EDZJ473APA	Carbon	47k	1/4W	±5%
R04,05 06,07	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R08	R2EDZJ223AP	Carbon	22k	1/4W	±5%
R09	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R10,11	R2EDZJ472APA	Carbon	4.7k	1/4W	±5%

Ref. No.	Parts Number	Description			
	RESISTORS				
R12	R2EDZJ4R7APA	Carbon	4.7	1/4W	±5%
R13	R2EDZJ471APA	Carbon	470	1/4W	±5%
R14	R2EDZJ153APA	Carbon	15k	1/4W	±5%
R15	R2EDZJ472APA	Carbon	4.7k	1/4W	±5%
R16	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R17	R2EDZJ221APA	Carbon	220	1/4W	±5%
R18	R2EDZJ150APA	Carbon	15	1/4W	±5%
R19	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R21	R2EDZJ102APA	Carbon	1k	1/4W	±5%
R22	R2EDZJ271AP	Carbon	270	1/4W	±5%
R24,25	R2EDZJ681APA	Carbon	680	1/4W	±5%
R26	R2EDZJ333APA	Carbon	33k	1/4W	±5%
R28	R2EDZJ104APA	Carbon	100k	1/4W	±5%
R29	R2EDZJ333APA	Carbon	33k	1/4W	±5%
R31	R2EDZJ273APA	Carbon	27k	1/4W	±5%
R32	R2EDZJ333APA	Carbon	33k	1/4W	±5%
R33	R2EDZJ122APA	Carbon	1.2k	1/4W	±5%
R34	R2EDZJ154APA	Carbon	150k	1/4W	±5%
R35	R2EDZJ682APA	Carbon	6.8k	1/4W	±5%
R36	R2EDZJ105APA	Carbon	1M	1/4W	±5%
R37	R2EDZJ223APA	Carbon	22k	1/4W	±5%
R38,39 40	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R42,43	R2EDZJ104APA	Carbon	100k	1/4W	±5%
R44,45 46,47,48,49,50	R2EDZJ223APA	Carbon	22k	1/4W	±5%
R51,52 53,54,55,56,57	R2EDZJ561APA	Carbon	560	1/4W	±5%
R58	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R59	R2EDZJ152APA	Carbon	1.5k	1/4W	±5%
R60	R2EDZJ223APA	Carbon	22k	1/4W	±5%
R61	R2EDZJ104APA	Carbon	100k	1/4W	±5%
R62	R2EDZJ334AP	Carbon	330k	1/4W	±5%
R65	R2EDZJ102APA	Carbon	1k	1/4W	±5%
R66	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R67	R2EDZJ104APA	Carbon	100k	1/4W	±5%
R68	R2EDZJ472APA	Carbon	4.7k	1/4W	±5%
R69	R2EDZJ563APA	Carbon	56k	1/4W	±5%
R70	R2EDZJ104APA	Carbon	100k	1/4W	±5%
R71	R2EDZJ102APA	Carbon	1k	1/4W	±5%
R72	R2EDZJ224APA	Carbon	220k	1/4W	±5%
R73	R2EDZJ123APA	Carbon	12k	1/4W	±5%
R74	R2EDZJ104APA	Carbon	100k	1/4W	±5%
R75	R2EDZJ122APA	Carbon	1.2k	1/4W	±5%
R76	R2EDZJ334APA	Carbon	330k	1/4W	±5%
R77	R2EDZJ122APA	Carbon	1.2k	1/4W	±5%
R78	R2EDZJ562APA	Carbon	5.6k	1/4W	±5%
R79	R2EDZJ333APA	Carbon	33k	1/4W	±5%
R80	R2EDZJ274APA	Carbon	270k	1/4W	±5%
R81	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R82	R2EDZJ333APA	Carbon	33k	1/4W	±5%
R83	R2EDZJ561APA	Carbon	560	1/4W	±5%
R84	R2EDZJ333APA	Carbon	33k	1/4W	±5%
R85	R2EDZJ563APA	Carbon	56k	1/4W	±5%
R86	R2EDZJ822APA	Carbon	8.2k	1/4W	±5%
R87	R2EDZJ123APA	Carbon	12k	1/4W	±5%
R88	R2EDZJ224APA	Carbon	220k	1/4W	±5%
R89	R2EDZJ682APA	Carbon	6.8k	1/4W	±5%
R90	R2EDUJ104A	Carbon	100k	1/4W	±5%

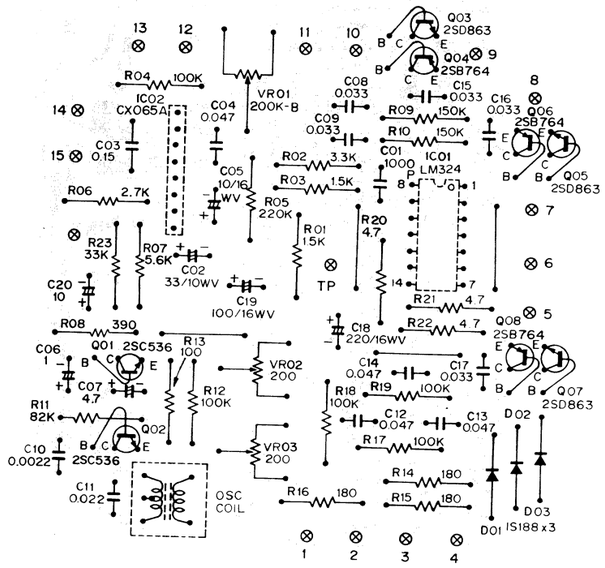
REMOCON P.C.BOARD
(BOTTOM VIEW)



PUSH SWITCH P.C.BOARD
(BOTTOM VIEW)



MOTOR CONTROL P.C.BOARD
(BOTTOM VIEW)



PARTS LIST

REMOCON P.C.B. Assy
131 0 400101780

Ref. No.	Parts Number	Description
	4 2262 0324	Remocon P.C.B.
S01,02 03	4 2312 01890	Key Board Switch
VR01	4 2229 25330	VR 100k-Bx1
VR02	4 2229 25340	VR 10k-Bx1

CAPACITORS

C01	C1HFYK222APA	Mylar	0.0022 μF	50V	±10%
C02	C1HFYK102APA	Mylar	0.001 μF	50V	±10%
C03	C1HRY-105APA	Electrolytic	1 μF	50V	
C04	C1HFYK333APA	Mylar	0.033 μF	50V	±10%
C05	C1HFYK103APA	Mylar	0.01 μF	50V	±10%
C06	C1HSEK501A	Styrol	500 pF	50V	±10%

SEMICONDUCTORS

D01	205 5 9040 44210	Diode, DS-442
D02,03	4 2022 00030	Diode, LD-271
IC01	IPP-MSM4069	IC, MSM4069
Q01	203 5 7230 60850	TR 2SA608 E, F
Q02	203 5 7340 86350	TR 2SD863 E, F

Ref. No.	Parts Number	Description

RESISTORS

R01	R2EDZJ105APA	Carbon	1M	1/4W	±5%
R02	R2EDZJ223APA	Carbon	22k	1/4W	±5%
R03	R2EDZJ153APA	Carbon	15k	1/4W	±5%
R04	R2EDZJ223APA	Carbon	22k	1/4W	±5%
R05	R2EDZJ224APA	Carbon	220k	1/4W	±5%
R06	R2EDZJ822APA	Carbon	8.2k	1/4W	±5%
R07	R2EDZJ472APA	Carbon	4.7k	1/4W	±5%
R08	R2EDZJ102APA	Carbon	1k	1/4W	±5%
R09	R2EDZJ103APA	Carbon	10k	1/4W	±5%
R10	R2EDZJ151APA	Carbon	150	1/4W	±5%
R11,12	R2EDPJ8R2A	Carbon	8.2	1/4W	±5%

PUSH SWITCH P.C.B. Assy
131 0 4001 03140

Ref. No.	Parts Number	Description
	4 2312 01610	Switch Push 2 key

CAPACITORS

C01	C1HFYK473APA	Mylar	0.047 μF	50V	±10%

RESISTORS

R01,02	R2EDZJ821APA	Carbon	820	1/4W	±5%

PARTS LIST

MOTOR CONTROL P.C.B. Assy
131 0 4001 00470

Ref. No.	Parts Number	Description
	4 2589 20900	OSC Coil
VR01	4 2229 26150	VR 200k-B
VR02,03	4 2229 26070	VR 200

CAPACITORS

C01	C1HFYK102APA	Mylar	0.001 μF	50V	±10%
C02	C1ARY-336APA	Electrolytic	33 μF	10V	
C03	C1HFAK154A	Mylar	0.15 μF	50V	±10%
C04	C1HFAM473A	Mylar	0.047 μF	50V	±20%
C05	C1CRY-106APA	Electrolytic	10 μF	16V	
C06	C1HRY-105APA	Electrolytic	1 μF	50V	
C07	C1ERY-475APA	Electrolytic	4.7 μF	25V	
C08,09	C1HFYK333APA	Mylar	0.033 μF	50V	±10%
C10	C1HFYK222APA	Mylar	0.0022 μF	50V	±10%
C11	C1HFYK223APA	Mylar	0.022 μF	50V	±10%
C12,13 14	C1HFAM473A	Mylar	0.047 μF	50V	±20%
C15,16 17	C1HFYK333APA	Mylar	0.033 μF	50V	±10%
C18	C1CRE-227A	Electrolytic	220 μF	16V	
C19	C1CRE-107A	Electrolytic	100 μF	16V	
C20	C1CRY-106APA	Electrolytic	10 μF	16V	

SEMICONDUCTORS

D01,02 03	202 5 9110 18824	Diode, 1S188FM1-AT
IC01	IUU-LM324	IC, LM324 (4CH OP AMP)
IC02	IVV-CX-065A	IC, CX-065A (Servo Control)

Ref. No.	Parts Number	Description

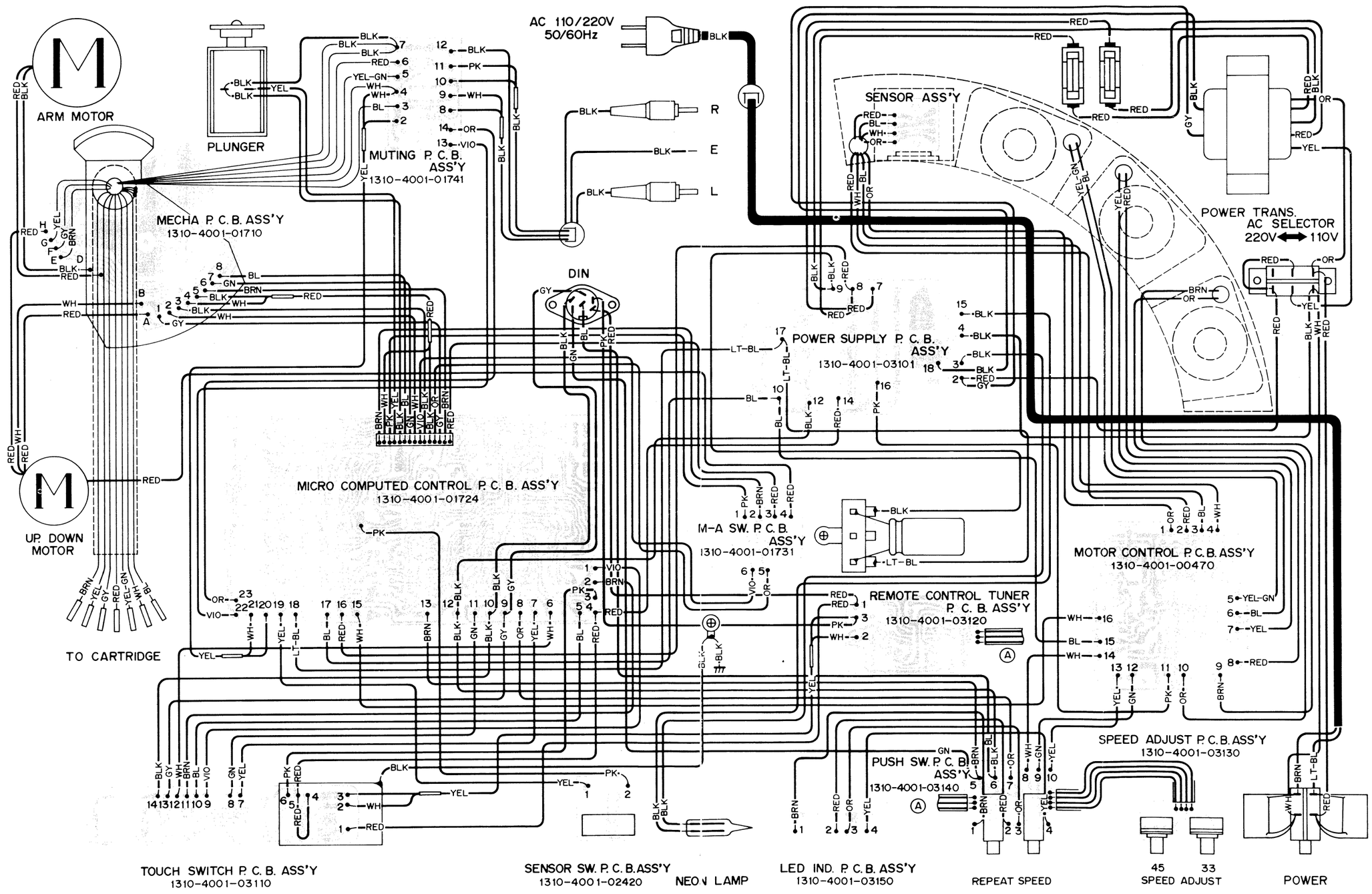
SEMICONDUCTORS

Q01,02	203 5 5000 53650	TR 2SC536 E, F
Q03,05 07	203 5 7340 86350	TR 2SD863 E, F
Q04,06 08	203 5 7350 76450	TR 2SB764 E, F

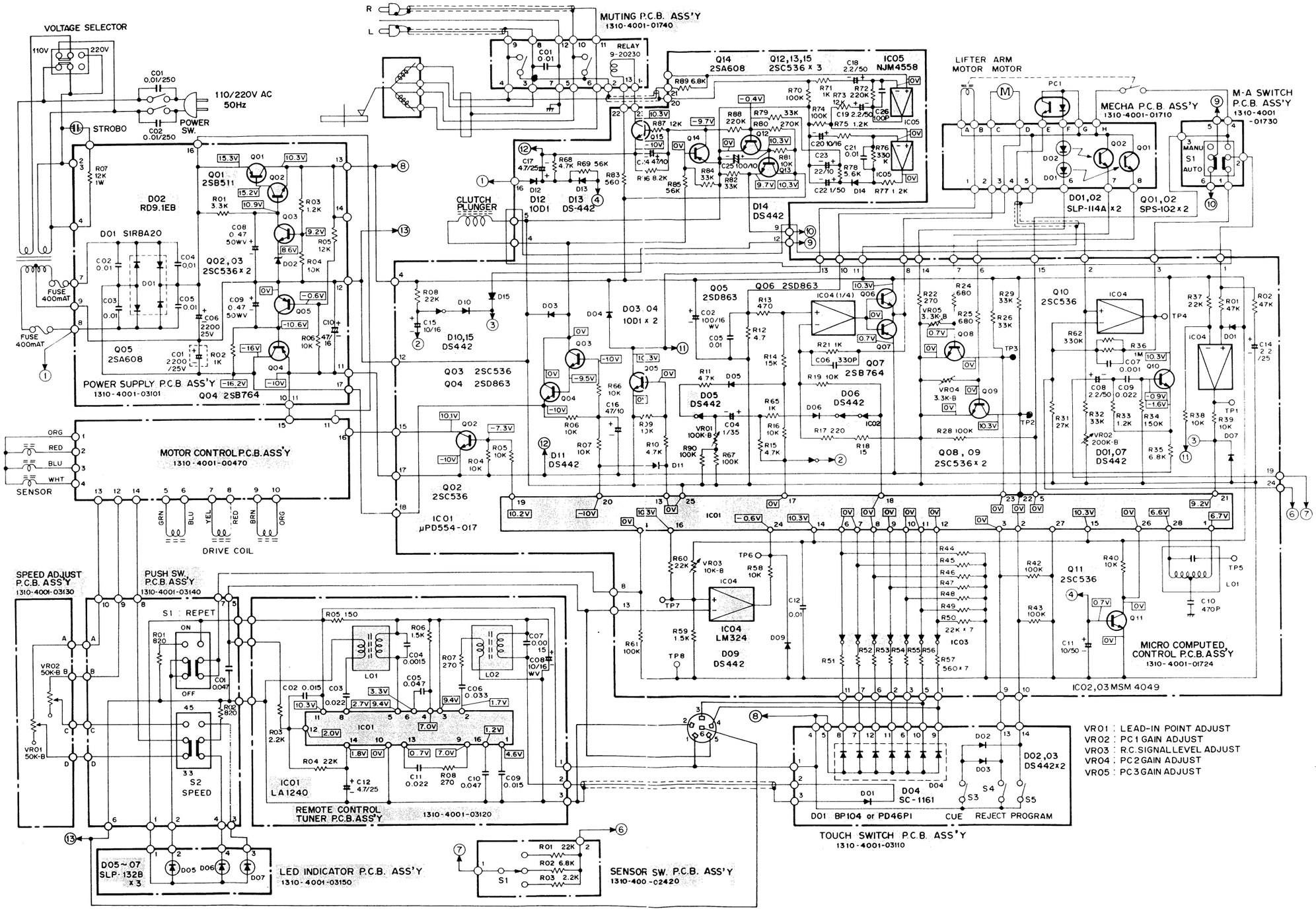
RESISTORS

R01	R2EDZJ152APA	Carbon	1.5k	1/4W	±5%
R02	R2EDZJ332APA	Carbon	3.3k	1/4W	±5%
R03	R2EDZJ152APA	Carbon	1.5k	1/4W	±5%
R04	R2EDZJ104APA	Carbon	100k	1/4W	±5%
R05	R2EDZJ224APA	Carbon	220k	1/4W	±5%
R06	R2EDZJ272APA	Carbon	2.7k	1/4W	±5%
R07	R2EDZJ562APA	Carbon	5.6k	1/4W	±5%
R08	R2EDZJ391APA	Carbon	390	1/4W	±5%
R09,10	R2EDZJ154APA	Carbon	150k	1/4W	±5%
R11	R2EDZJ823APA	Carbon	82k	1/4W	±5%
R12	R2EDZJ104APA	Carbon	100k	1/4W	±5%
R13	R2EDZJ101APA	Carbon	100	1/4W	±5%
R14,15 16	R2EDZJ181APA	Carbon	180	1/4W	±5%
R17,18 19	R2EDZJ104APA	Carbon	100k	1/4W	±5%
R20,21 22	R2EDZJ4R7APA	Carbon	4.7	1/4W	±5%
R23	R2EDZJ333APA	Carbon	33k	1/4W	±5%

POINT TO POINT WIRING DIAGRAM



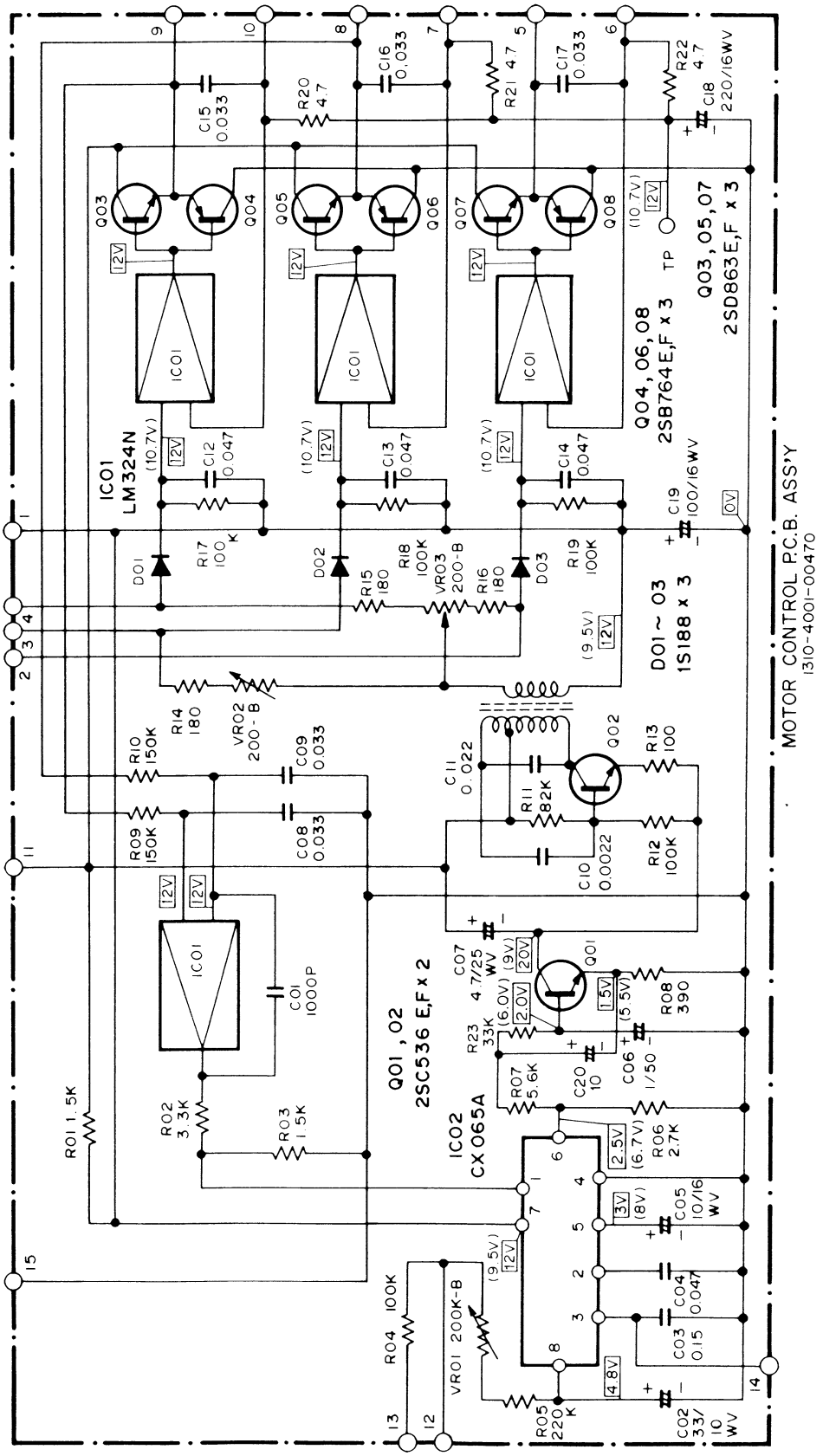
SCHEMATIC DIAGRAM



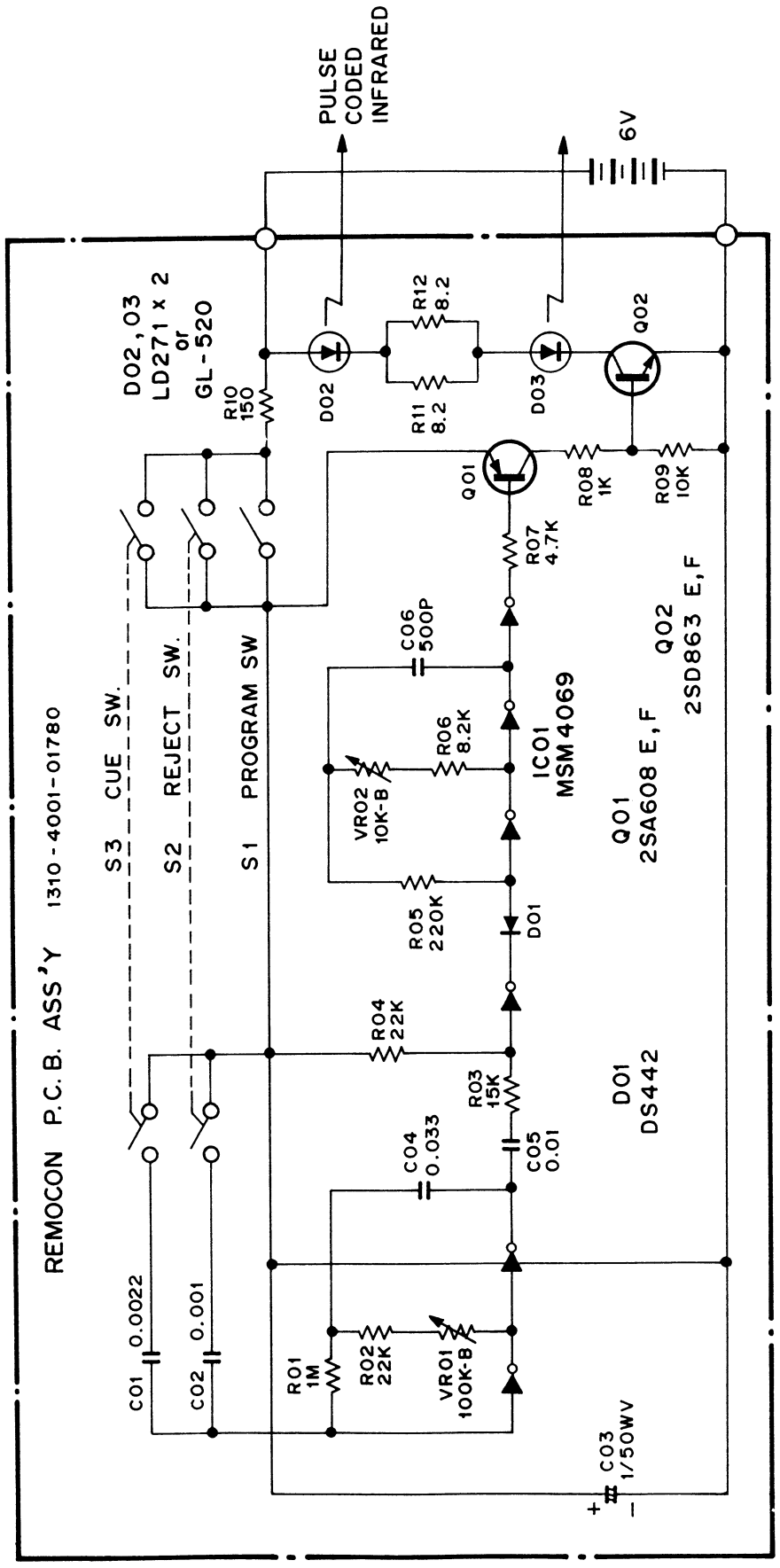
NOTES:

1. All resistors values are indicated in "ohm" (K=10^3, M=10^6).
2. All capacitors values are indicated in "μF" (P=10^{-12}).
3. All volatages indicated on the schematics are measured under the following conditions.
   a. Use a V.T.V.M.
   b. All voltages ±10% with respect chassis ground
   c. AC input at 220 volts 50 Hz
4. This is a fundamental schematics diagram. Some products may be modified without notice.

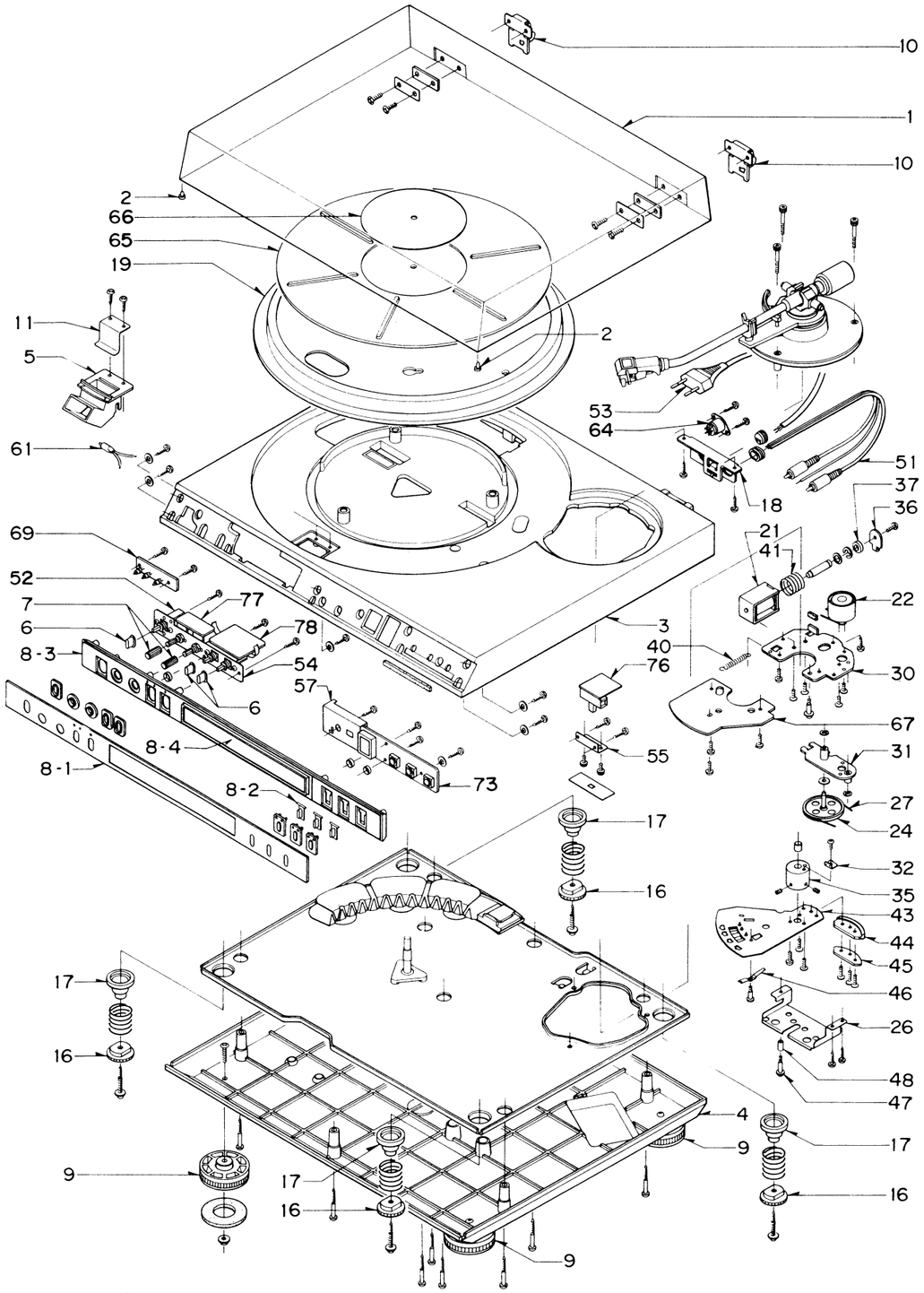
MOTOR CONTROL SCHEMATIC DIAGRAM



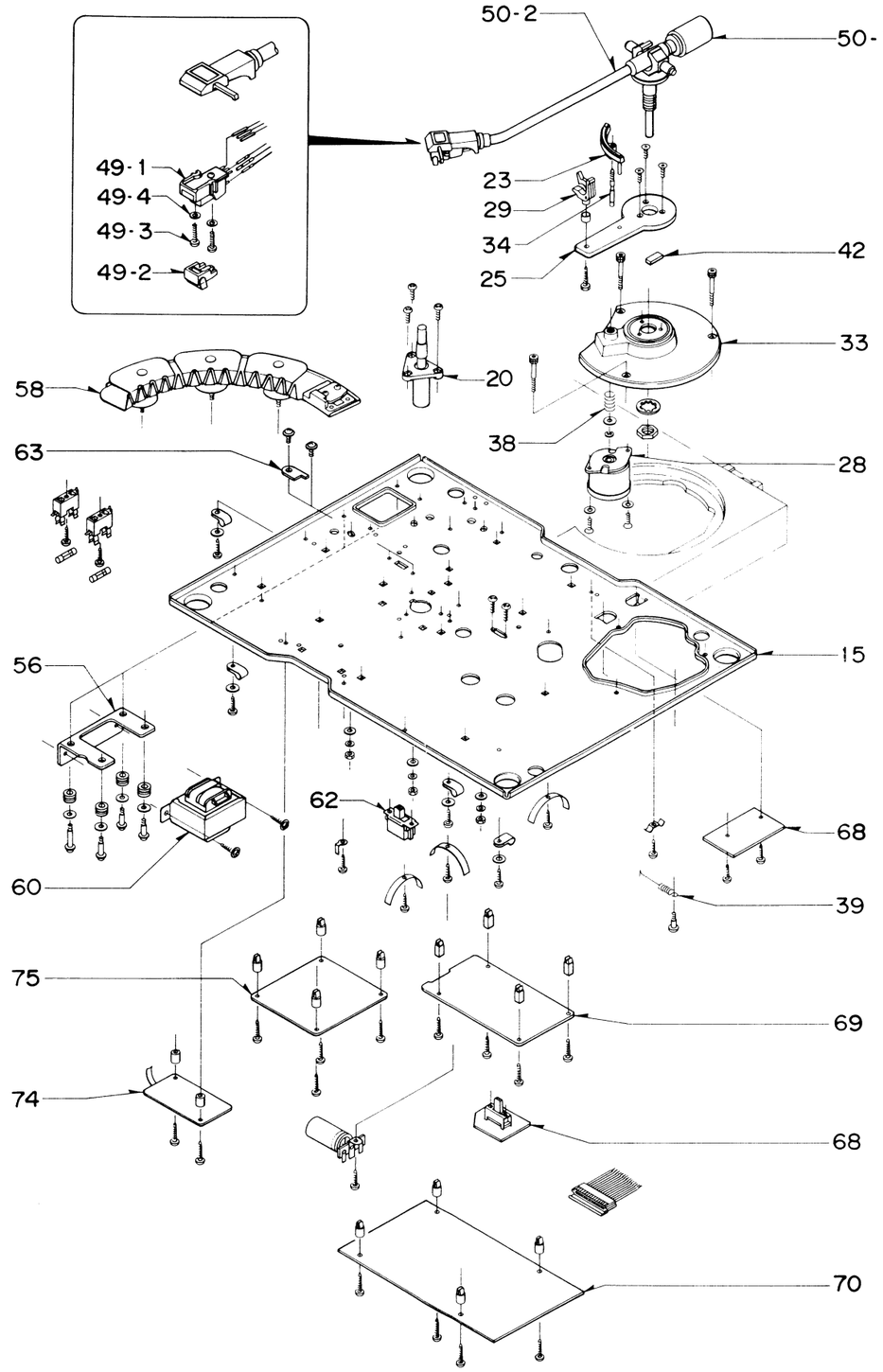
REMOTE CONTROL SCHEMATIC DIAGRAM



CABINET & TURNTABLE EXPLODED VIEW(1)



CABINET & TURNTABLE EXPLODED VIEW(2)



PARTS LIST

PACKING PARTS LIST

Ref. No.	Parts Number	Description
	131 6 1139 79701	Box Corrugate-EXP
	131 6 2119 01362	Bag Polyethylene-EXP
	131 6 2519 01300	Bag Polyethylene Ind.
	131 6 2119 01470	Bag Polyethylene
	131 6 3009 28140	Pad (Side)
	131 6 3009 28150	Pad (Side)
	131 6 3009 28690	Pad (Arm)
	131 6 3009 28720	Pad (Lid Rear)
	131 6 3009 28730	Pad (Cabinet Front)
	131 6 3069 16430	Patching Sheet (Lid)

ACCESSORIES PARTS LIST

Ref. No.	Parts Number	Description
	4 6612 00020	Dry Battery
	131 6 4519 15700	Guarantee Card
	134 2 2901 10502	Adapter EP
	131 6 2719 10801	Bag Fan
	131 6 4119 78001	Explanatory Booklet

CABINET PARTS LIST

Ref. No.	Parts Number	Description
1	131 2 1107 21600	Lid
2	131 2 2904 12300	Pad Lid
3	131 2 1101 40502	Cabinet (Top)
4	131 2 1101 40600	Cabinet (Bottom)
5	131 2 1410 22300	Cover
6	131 2 1601 56600	Knob (Power, Speed, Repeat)
7	131 2 1601 50900	Knob (Volume)
8	131 0 1016 33801	Panel Decorate Assy
8-1	131 2 1110 25350	Plate Decorate
8-2	131 2 1601 56700	Knob
8-3	131 2 3305 26900	Panel Front
8-4	131 2 6308 18801	Filter
9	131 0 1003 13300	Leg Assy
10	131 0 2002 15000	Hinge Assy
11	131 2 6306 11700	Reflector
*	131 2 4202 12904	Nut 9 – 4
*	131 2 4201 20702	Screw 3x35 3 – 8
*	131 2 4201 19502	Screw (Screw, Button Head Tapping B-TIPE 3) 8 – 5, 74 – 3, 70 – 4 69 – 2
*	101 3 1504 01406	Screw, Truss Head 4.0x14 9 – 4
*	101 3 1504 01002	Screw, Truss Head 4.0x10 10 – 4
*	131 2 4201 19501	Screw (Screw, Button Head Tapping B-TITE 3) 5 – 2
*	131 2 4203 83217	Washer, Plain 3.2x13x1.0 8 – 5

TURNTABLE PARTS LIST

Ref. No.	Parts Number	Description
15	134 2 2101 13700	Unit Plate
16	134 2 2106 11300	Holder (Spring Holder)
17	134 2 5102 14000	Spring Mounting (Unit Plate Float)
18	131 2 3101 50820	Metal Mount (Power, Phono Cords)
19	134 0 5001 13100	Turntable Assy
	134 2 6101 12700	Turntable
20	134 0 9902 11104	Assembly Plan-T.T
	134 0 5010 10601	Bearing T.T Assy
	134 2 6107 10905	Spindle Turntable
*	131 2 4201 13502	Screw (TAPTITE) 3x8 20 – 3
21	4 2642 00020	Plunger
22	4 5272 00010	Comutate Motor Magnet
23	131 0 2001 12500	Support Arm Assy
24	131 0 3020 11700	Pulley Assy
25	131 2 1110 24700	Plate Decorate (Base Pick-up)
26	131 2 1410 20900	Cover
27	131 2 4804 00300	Rubber Belt
28	134 0 5011 01000	Motor Assy (Up, Down)
29	134 0 6031 11800	Arm Rest Assy
	131 2 1609 00600	Ring Decorate
	134 2 3301 13400	Arm Rest
	134 2 3308 10900	Holder Pick-up
30	134 0 6037 11800	Base Assy (Base Pick-up)
31	134 0 6038 00300	Arm Clutch Assy (Base Assy)
32	134 2 2403 21200	Angle Mount
33	134 2 3201 12500	Base Pick-up (Unit Plate)
34	134 2 4116 13100	Spindle Lifting (Support Arm)
35	134 2 4118 17901	Boss (Tone Arm Shaft)
36	134 2 4121 11900	Guide (Plunger)
37	134 2 4208 15400	Spacer (Plunger Shaft)
38	134 2 5101 27300	Spring (Spindle Lifting)
39	134 2 5101 30200	Spring (Angle Mount)
40	134 2 5102 14100	Spring Arm (Arm Clutch)
41	134 2 5102 14200	Spring Solenoid (Plunger)
42	134 2 6307 00100	Magnet Bias
43	134 2 4108 24200	Plate Control (Boss)
44	134 2 4131 00200	Rubber Friction (Plate Control)
45	134 2 4203 02900	Washer Weight (Rubber Friction)
*	101 3 1203 00802	Screw, Flat Head 3.0x8 45 – 3
46	134 2 5103 10800	Spring Shelter
*	141 2 4219 14000	Screw 46 – 4
47	134 2 4106 22200	Shaft
48	134 2 5205 13300	Cushion (Base Assy)
*	131 2 4206 12000	Ring E 2 34 – 1, 24 – 1
*	108 3 1103 00007	Ring E 3.0 31 – 1
*	102 3 1403 01003	Screw, Flat Head Tapping 1 3.0x10 25 – 3, 43 – 2
*	131 2 4201 23501	Screw 29 – 1
*	101 3 1203 00604	Screw, Flat Head 3.0x6 21 – 2, 30 – 1
*	101 3 1103 00603	Screw, Pan Hd. 3.0x6 36 – 1
*	101 3 1103 00401	Screw, Pan Hd. 3.0x4 64 – 3

PARTS LIST (Continued)

TURNTABLE PARTS LIST

Ref. No.	Parts Number	Description
*	101 3 1103 00603	Screw, Pan Hd. 3.0x6 30 – 1
*	131 2 4201 13700	Screw (TAPTITE) 3x6 28 – 2
*	101 3 1102 60401	Screw, Pan Hd. 2.6x4 32 – 1
*	102 3 2203 00601	Screw, Button Head Tapping 3.0x6 26 – 2
*	102 3 2203 01001	Screw, Button Head Tapping 3.0x10 43 – 1
*	131 2 4203 83222	Washer, Plain 3.2x8x0.3 24 – 1
*	131 2 4203 84233	Washer, Plain 4.2x10x0.3 31 – 1
*	134 2 5205 13400	Cushion 23 – 1
49	4 1579 21250	Pick-up Assy
50	134 0 4001 07500	Tone Arm Assy
50-1	134 0 4003 01800	Weight Assy
50-2	134 0 4004 02500	PU Arm Assy
49-1	134 0 4008 00100	Cartridge Assy (MG-100S)
49-2	4 1579 29330	Pick-up Stylus (ST-100SD)
49-3	131 2 4201 22800	Screw
49-4	134 2 4203 03000	Washer
51	131 0 4004 15001	Wire Shield Assy
52	4 2312 03470	Switch Push Power
53	4 2432 00140	Power Cord
54	131 2 3101 65600	Metal Mount (Push SW, VR, Power SW.)
55	131 2 3604 15400	Metal Mount Switch (H-M-L P.C.B.)
56	131 2 3617 17200	Metal Mount Transformer
*	131 2 4203 83201	Washer, Plain 3.2x10x0.5 56 – 4
57	131 2 6103 18500	Cover Shield (Touch SW. P.C.B.)
58	134 0 5011 00702	Motor Assy (Linear)
*	104 3 1104 00003	Nut, Hex Head 1 4.0 58 – 3
*	131 2 4201 18000	Screw 56 – 2
*	131 2 4201 19900	Screw (SEMS 3x6) 54 – 2
*	131 2 4201 19701	Screw, Pan Hd. 2.6x5 69 – 2, 55 – 2
*	102 3 2203 01801	Screw, Button Head Tapping 2 3.0x18 67 – 4
*	102 3 2203 01401	Screw, Button Head Tapping 3.0x14 73 – 10
*	131 2 4201 19501	Screw (Screw, Button Head Tapping B-TITE 3) 55 – 2
*	134 2 4208 15000	Spacer 58 – 3
*	131 2 4203 84500	Washer, Plain 4.5x10x0.8 58 – 3
*	105 3 1204 00001	Washer, Spring 4.0 58 – 3
59	4 2349 20131	Fuse 400mA
60	4 2512 08820	Power Transformer
61	4 6129 20796	Neon Lamp
62	4 2312 01020	Switch Slide
63	131 2 7104 00101	Plate Pad Switch

TURNTABLE PARTS LIST

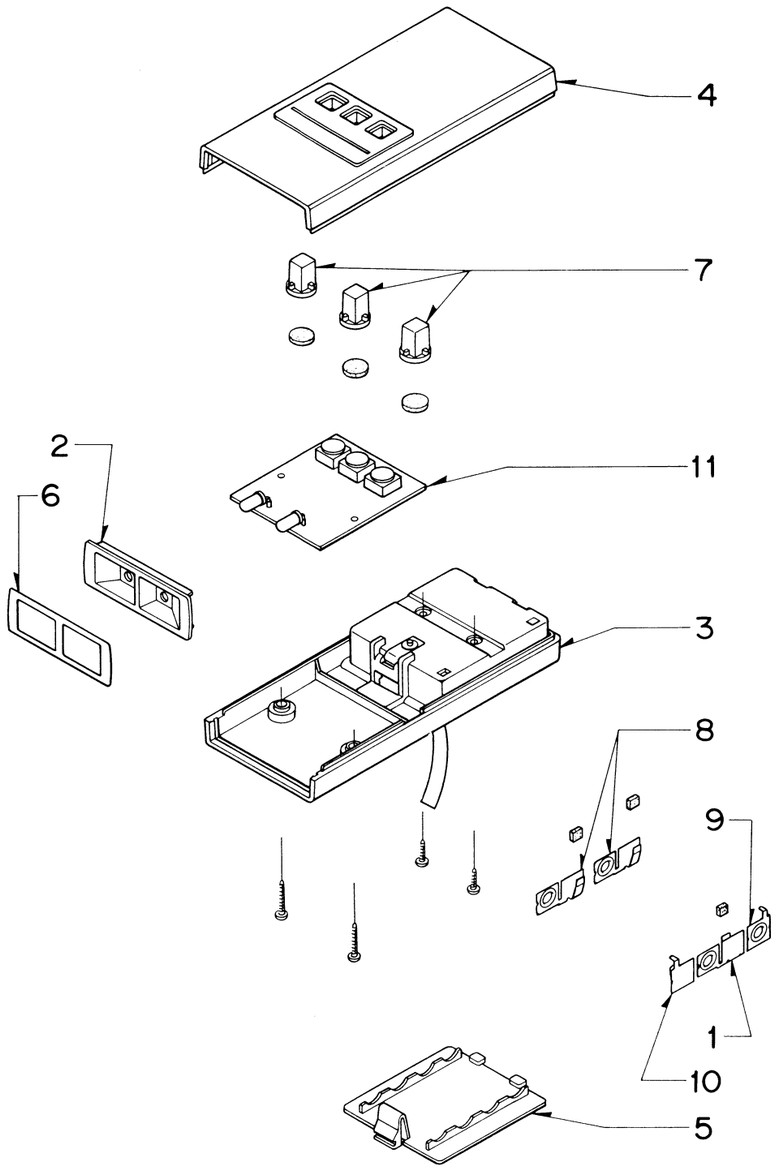
Ref. No.	Parts Number	Description
64	4 2352 00670	Socket DIN 6P (Remote Control)
65	134 2 6102 15100	Mat Turntable
66	134 2 6103 11501	Plate Decorate T.T
67*	131 0 4001 01710	Mecha P.C.B. Assy
68*	131 0 4001 01741	Muting P.C.B. Assy
69*	131 0 4001 03101	Power Supply P.C.B. Assy
70*	131 0 4001 01724	Micro Computed Control P.C.B. Assy
71*	131 0 4001 01731	M-A Switch P.C.B. Assy
72*	131 0 4001 03150	L.E.D. Indicator P.C.B. Assy
73*	131 0 4001 03110	Touch Switch P.C.B. Assy
74*	131 0 4001 03120	Remote Control Tuner P.C.B. Assy
75*	131 0 4001 00470	Motor Control P.C.B. Assy
76*	131 0 4001 02420	Sensor Switch P.C.B. Assy
77*	131 0 4001 03130	Speed Adjust P.C.B. Assy
78*	131 0 4001 03140	Push Switch P.C.B. Assy

Note: * Asterisk indicates not a service part. The numbers for screws, nuts, and washers, shown in Description, correspond with Ref. Nos. of the parts using these screws, nuts and washers.

Example: 3 – 2

3 means	Ref. No.
2 means	Q'ty.

REMOTE CONTROL BOX EXPLODED VIEW

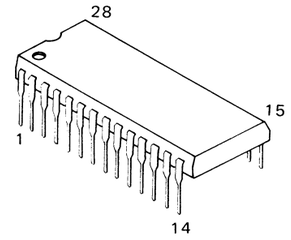


PARTS LIST

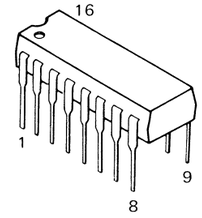
Ref. No.	Parts Number	Description
1	4 2372 00620	Terminal Battery
2	131 2 1110 25100	Plate Decorate
3	131 2 1207 11500	Housing (Bottom)
4	131 2 1207 11602	Housing (Top)
5	131 2 1410 21200	Cover (Battery Cover)
6	131 2 1410 21600	Cover (L.E.D. Cover)
7	131 2 1601 56400	Knob (Control Knob)
8	141 2 3829 16800	Terminal Battery
9	141 2 3829 22101	Terminal Battery (Plus)
10	141 2 3829 22202	Terminal Battery (Minus)
11*	131 0 4001 01780	Remocon P.C.B. Assy

SEMICONDUCTOR LEAD IDENTIFICATION

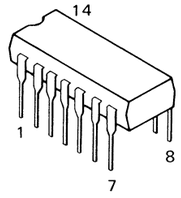
INTEGRATED CIRCUIT



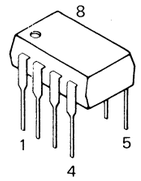
- μPD554-017



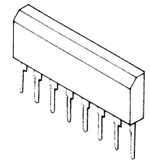
- MSM4049



- LA1240
- LM324
- MSM4069

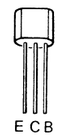


- NJM4558

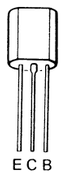


- CX065A

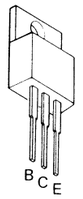
TRANSISTOR



- 2SC536
- 2SA608

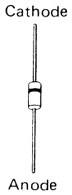


- 2SB764
- 2SD863

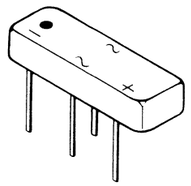


- 2SB511

DIODES



- RD9.1E
- DS442
- 10D-1



- S1RBA20